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## Transport Administration in Tropical Dependencies

By George V. O. Bulkeley, C.B.E., M.I.Mech.E.

With Chapters on Finance, Accounting, and Statistical Method

IN COLLABORATION WITH

Ernest J. Smith, F.C.I.S.

(formerly Chief Accountant, Nigerian Government Railway)

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**THE RAILWAY GAZETTE**

33, TOTHILL STREET, WESTMINSTER, S.W.1

### Railway Revenue and Charges

IT is clear from a statement made in the House of Commons by the Minister of Transport on May 12, that railway charges will shortly be increased, but he gave no indication of the extent of the increase. On February 24, the Minister said that the Government had decided to wait until the end of March before deciding whether to implement the November recommendation of the Charges Consultative Committee that rail charges should be raised. It now appears that, apart from the effects of the severe weather and the fuel crisis, other factors have affected net revenue adversely. At the end of March, the pool net revenue of the railways was £18 millions short of the appropriate proportion of the fixed annual sums payable to the railways, and the Minister said it was estimated that this deficiency would increase to £23 millions by June, and possibly to £32 millions by the end of the year. These estimates justified increases substantially in excess of those recommended by the Committee, and the Government was giving close attention to the steps necessary to meet the situation.

### Result of Government Inaction

The Minister declined, however, to give any indication of the probable date or extent of the increase, and added: "The railways would have been much worse off if they had not been under control." The latter point is certainly open to challenge, as there can be no doubt that the Government consistently has declined to keep railway charges in line with rising costs, preferring that the community at large should subsidise railway users. In February last, speaking at Bristol, the Minister is reported to have said that "the charges of our transport system have got right out of gear with the general price level of the community." This is quite correct, and presumably it did not matter to the Government, because under the control agreement the railways earned about £195 millions profit during the first five years of the present financial arrangement. During 1946, railway earnings were £11½ millions short of the fixed annual payments, largely because of increased costs of labour and materials, and there is no doubt that railway charges should have been increased at a much earlier date.

### British Transport Commission

In our May 9 issue we drew attention to a statement made on April 29 by the Minister of Transport during the Report stage of the Transport Bill when the functions and qualifications of the members of the British Transport Commission were being discussed. He said: "They will not be civil servants in this case; they will be experts, and technicians, drawn from the transport industry." When the Minister spoke, a Member had just referred to some comments by Sir David Maxwell Fyfe on the members of the Commission and on its staff, and it is probable that the Minister's interjection was intended to refer to the Commission's staff and not the Commission itself. The Minister of Transport on April 29, when discussing the functions of the Commission, said: "The Commission, I assume, will have around it a very small, but high-powered sectional staff." Support may be found for the view that his remark applied to the Commissions' staff in the speech on February 6 during the Committee stage by the Parliamentary Secretary to the Ministry of Transport. He stated categorically that the members of the Commission would not be drawn exclusively from the transport industry, but from the widest possible field of experience and ability; for example, persons who had had wide experience and had shown capacity in transport, industrial, commercial, or financial matters, in administration, or in the organisation of workers.

### Conservative Party Policy

The Conservative Party has issued a statement\* on its industrial policy, in which it declares that it is opposed to the imposition of a straight-jacket of doctrinaire political theory and that its objective is to free industry from unnecessary controls and restrictions. It sums up the nation's immediate needs

\* "The Industrial Charter." Conservative & Unionist Central Office, Abbey House, Victoria, S.W.1, price 1s.

and priorities as (a) the restoration of a high rate of productivity; (b) first attention to basic industries serving the urgent needs of the people, and it lists these as coal and power, transport, capital equipment and housing, food and agriculture; and (c) halting the inflationary process and stabilising the value of the pound. It points out that it will require all the help that can be given to the transport system to repair and renew the locomotives and wagons so vitally needed for goods and passenger traffic. Railways and shipping are given a priority second only to power. Of the industries which have been, or are in process of being, nationalised, the general line taken is that the party would not propose complete denationalisation of coal or the Bank of England, but that it would examine and modify the methods applied. Of transport, it states that a wide measure of freedom would be restored to road hauliers and certain parts of civil aviation. Presumably the railways would not be returned to private ownership, but powers given to Ministers under nationalisation Bills would be curbed.

### Overseas Railway Traffic

Argentine receipts in most cases have been maintained at above those for last year. Gains by the Buenos Ayres & Pacific, Buenos Ayres Western, and Argentine North Eastern were ps. 786,000, ps. 630,000, and ps. 50,300 for two weeks. Although Buenos Ayres Great Southern showed a decrease of ps. 130,000 in the first half of the fortnight, there was an increase of ps. 328,000 in the second week, resulting in a final gain of ps. 198,000. The Central Argentine showed decreases of ps. 48,850 and ps. 30,255, though aggregate receipts from July 1, 1946, have increased by ps. 3,129,346. In both weeks Entre Rios maintained an increase, ps. 16,000 and ps. 8,700 respectively. On the Central Uruguay there was a loss of £555 for the fortnight, and aggregate receipts since July 1 were down by £80,811 at May 3, 1947. Some results are:—

	No. of week	Weekly traffic	Inc. or dec.	Aggregate traffic	Inc. or dec.
Buenos Ayres & Pacific* ...	44	2,750	+ 368	106,477	+ 5,813
Buenos Ayres Great Southern* ...	44	3,826	+ 328	160,758	+ 2,996
Buenos Ayres Western* ...	44	1,431	+ 423	58,300	+ 5,447
Central Argentine* ...	44	3,078	- 30	142,064	+ 3,129
Canadian Pacific ...	17	2,149	+ 292	24,399	+ 971

\* Traffic returns in thousands of pesos

The improvement in C.P.R. gross earnings was continued, and for the nine days ended April 30, an increase of £292,500 was shown.

### Transport Co-ordination in Hyderabad

Hyderabad is the largest State in India; its area of some 85,000 sq. miles makes it similar in size to Great Britain, and it has a population of nearly 18,000,000 persons. Under the present Nizam the State is administered on modern lines, and, as Colonel E. W. Slaughter showed in his address before the Institute of Transport on Thursday last, considerable progress has been made in the co-ordination of road, rail, and air services in the State. Conditions in Hyderabad differ considerably from those in this country, and it should not be assumed that because there has been some measure of success in Hyderabad the same policy could be adopted in Great Britain with similar results. Nevertheless, some of the experience which has been gained might be noted with advantage. In India, and in the more sparsely populated countries in the Empire, the methods which have been adopted might well be considered, with any adjustments which might be necessary to suit the local needs. Colonel Slaughter's address bore the imprint of authority and experience. He was General Manager of the Nizam's Railway from 1935 to 1941, and then Managing Director of the Nizam's Railway Board, which forms the administrative link between the Government and rail and road services and also administers the Air Department, until the end of last year, when he was appointed London Agent of the Nizam's Railway.

### G.W.R. Summer Train Services

The G.W.R. is the first of the main-line railways to announce its summer services. To conserve fuel they will be introduced on June 16, a fortnight later than usual; will operate until October 5; and will be subject to a cut of 10 per cent. as

compared with last year. The up and down "Cornish Riviera" and "Torbay" expresses are being restored, but on Mondays to Fridays inclusive the latter train will leave Paddington at 11 a.m. and call at Taunton and Exeter. On Saturdays, the departure time will be noon and Torquay the first stop. To provide for holiday traffic at weekends, it has been necessary to curtail a number of the more lightly used services during the week. For example, last summer there were 22 long-distance trains from Paddington to the West Country on Mondays to Fridays, whereas this year there will be 15, increased to 25 on Saturdays. Cross-country services between the Midlands and the north and west of England also are to be augmented on Friday nights and Saturdays. There will be daylight services daily in each direction between Weymouth and the Channel Islands on weekdays, and to Ireland a service on Mondays, Wednesdays, and Fridays between Fishguard and Waterford and Fishguard and Rosslare.

### Railway Labour Negotiations

Mr. Alfred Barnes, M.P., Minister of Transport, met representatives of the four main-line railway companies, the L.P.T.B., and the men's unions, at the Ministry of Transport on Friday last. The railway companies were represented by their general managers and the L.P.T.B. by Lord Ashfield. The men's unions represented were the National Union of Railwaymen, the Associated Society of Locomotive Engineers & Firemen, the Railway Clerks' Association, the Confederation of Shipbuilding & Engineering Unions, and the London Transport Joint Trades Committee. The Minister placed before the meeting certain considerations concerning the position of the controlled railways and the London Passenger Transport Board in regard to manpower and revenue. He asked that the negotiations pending on certain claims submitted by the unions to the companies and the Board, in which the Government was not itself intervening, should proceed as quickly as possible under the normal machinery in the light of the circumstances to which he had drawn attention. The parties agreed to meet immediately. Claims by the unions now before the railways include an increase of £1 a week for 500,000 conciliation grade workers and 110,000 shopmen, as well as demands for shorter hours.

### Improved L.M.S.R. Restaurant Cars

On Monday last, the L.M.S.R. placed in service two remodelled first class restaurant cars which represent a definite advance in the standard of comfort of railway travel, and are the forerunners of a series of first and third class cars to be brought into use as soon as practicable. These cars, which are described elsewhere in this issue, embody the same general principles of layout. Briefly, they consist of a vestibule coach and a restaurant kitchen car, and, although the seating plan conforms to standard, the use of movable chairs gives a substantial increase in space and greater freedom of movement. A passenger on the window side can leave without disturbing his neighbour, and the waiter can serve from behind each chair, instead of having to reach across the length of the table. A new design of table suspension, including rubber insulation, noticeably lessens vibration. The design of the windows, which are double glazed, was considered in conjunction with heating and ventilation. Steam heating pipes are fixed flush with the body sides, thus increasing the floor space by 3 in. on each side of the car, and the entire ceiling centre is dropped slightly to provide an air space along the full length of the dropped portion, through which foul air is extracted by concealed ducts. Maximum eye comfort has been attained by ceiling lamps and a modified form of table lighting in which the table lights are fitted to the underside of the luggage rack or incorporated in the pelmet which houses the curtain runners.

### Co-Relation of Signal and Permanent Way Work

Mr. J. H. Fraser's informative paper on the co-relation of signal and permanent way work, read to the Institution of Railway Signal Engineers on April 30, formed in some measure a continuation of the topics dealt with before the London Section of the Permanent Way Institution by Mr. F. H. D. Page on April 10, 1946, when signal engineers attended. Mr. C. E.

Dunton, Chairman of the section, supported Mr. F. L. Castle, the President of the Signal Engineers, on April 30. Many permanent way engineers were present and contributed to a varied and instructive discussion, stressing the importance of studying each other's problems and mutually reducing to a minimum the difficulties of keeping apparatus working efficiently. Evidently some feel there is still room for improvement in the design of items of permanent way equipment, that friction in operating points and movable crossings might perhaps be reduced and tendency to spreading of the gauge further restricted. Mr. Dunton made an amusing comparison between the tasks of the permanent way and signal engineers, and expressed the hope that another joint meeting could be arranged, as the discussion had proved most helpful to both sides.

#### The Catford Derailment, Southern Railway

It was very fortunate that the casualties resulting from the derailment at Catford, Southern Railway, on September 20, 1946, were so small. There was only one fatality out of 377 passengers, and only one case of injury necessitating any appreciable detention in hospital. The first four derailed coaches went down a 15-ft. embankment, but circumstances combined to limit the damage they suffered, and the worst destruction to bodywork occurred at an empty brake compartment. A summary of Lt-Colonel E. Woodhouse's report on the accident appears at page 514. He considers it to have been due to faulty condition of the track, cant and curvature being decidedly uneven in rear of the site. As there was no evidence of sudden subsidence or settlement, he concludes that persistent wet weather may have caused gradual deterioration, perhaps extending over several days. Some responsibility is held to rest on the inspector and ganger for not detecting the fact in time and taking steps to rectify it, although the incorrect assumption that the line was in proper condition, as it appeared to several observers on visual inspection only, may have led to lack of thoroughness in checking the cant. Provision of monuments at the spot had been delayed by the war and other circumstances.

#### "In Bad Physical Shape"

**D**URING the Report stage of the Transport Bill, several interesting statements were made by the Minister of Transport. He intimated, for instance, that on the assumption that the Bill receives the Royal Assent this session, on January 1, 1948, there will be transferred to public ownership some 60 railway undertakings, 52,000 miles of track, 1,230,000 wagons, 45,000 passenger coaches, 20,000 locomotives, 25,000 horse-drawn vehicles, 70 hotels, and 50,000 houses, representing the main property of the railway companies. In addition there will be 1,640 miles of canals and waterways and 100 steamships totalling 150,000 gross tons.

As the provisions of the Bill compulsorily acquiring certain long-distance road undertakings become operative it is estimated that 34,000 commercial lorries will pass into the hands of the Commission. The staff employed by the controlled undertakings at present numbers 692,000 persons. The Minister also stated that 11,000 of the 34,000 commercial lorries will be taken over from the railway companies, but estimated that 100,000 commercial road lorries operating under "A" and "B" licences and 380,000 commercial vehicles operating under "C" licences will not be transferred to the Commission. Thus, by far the greater portion of the country's road haulage will not be subject to its jurisdiction, and, having regard to the pre-war experience of the railway companies, the Commission may find difficulties arising from this fact in connection with its task of providing an economical and properly integrated system of public inland transport.

On the financial side, the Minister said it was essential that the Commission should accumulate and hold an adequate general reserve to equalise temporary fluctuations in its earnings and to meet other unforeseeable contingencies. It must also make provision for the renewal and depreciation of its physical assets and will also be required, over a suitably long period, to redeem its capital. The latter direction, we suggest, will have an important effect on the future general level of charges.

He also stated that as trade expands and passenger travel increases, the transport system of the country will be unable to handle all the traffic and the passengers offered to it. This, he agreed, was the result of six years of war and of the last two years of continuous strain in which there has been no opportunity of catching up with arrears of maintenance and replacement. He expressed the view that the railways, particularly, are in bad physical shape and that it would require a very great and intensive effort on the part of the industry itself, and the nation, if they are to be restored in a reasonable time so that they will be able to handle a revival of trade and industry. For this reason he commended the attitude of the Government in pressing forward the Bill so that the British Transport Commission could take over the services, mobilise public credit at a cheap rate for the purpose of financing substantial improvements, and tone up our transport services.

We suggest that the Minister was most unfair to the railway companies on this point, and he omitted to mention that since the cessation of hostilities it is the acute shortage of materials, and not the shortage of finance, which has frustrated the railways' efforts to rehabilitate their undertakings. There is a sum of £150 millions in the maintenance trust funds set up under the railway control agreement which is available to finance the cost of overtaking the arrears of maintenance to permanent way, rolling stock, and other railway assets, which occurred during the war, and, judging from the latest information available, even less material is likely to be available in 1947 for this vital repair and renewal work than the totally insufficient amounts the railways were able to secure in 1946.

In these circumstances "the ability to mobilise public credit at a cheap rate to finance substantial improvements" to the railways, we fear, is likely to prove of little assistance to the Commission for the first two or three years of its existence in overtaking arrears of maintenance, quite apart from effecting improvements.

A further point of interest to the staff generally is that when winding up the debate, the Parliamentary Secretary to the Ministry of Transport (Mr. G. R. Strauss) disputed the suggestion that the setting up of the Commission and nationalising transport would involve a substantial increase in staff either in the Ministry of Transport or by the Commission. On the contrary, he felt certain that, as the transport services are to be integrated, there will be a saving in administrative staff.

#### Railway Control Agreement and the Transport Bill

**D**URING the Report stage of the debate on the Transport Bill, one M.P. expressed the view that if the passage of the Bill were frustrated in its further stages the Government would be bound to give notice that it was terminating the agreement under which the present subsidy is paid. This, he suggested, would mean a fall of about 50 per cent. in railway ordinary stocks, and he added that the railways would then have to consider asking the Railway Rates Tribunal for a sufficiently steep rise in fares and charges to enable them to earn their standard revenue.

He suggested they would not do so unless they felt sure the Government would sanction the introduction of the proposals of the railways and the Road Haulage Association for the co-ordination of freight transport, which would result in higher charges which no Government could accept. The Government, however, would be faced with this alternative or of paying a large subsidy to private interests. The Parliamentary Secretary to the Ministry of Transport also made the same point that, should the Bill not become law, the control agreement would come to an end and the subsidy with it; consequently the railways would have to seek authority from the Rates Tribunal to increase their charges, although this would not necessarily increase their revenues as traffic might be diverted to other forms of transport.

It will be recalled that the fixed annual sums payable by the Government to the controlled undertakings amount to £43,469,000. In fact, however, during the six years the agreement has been in force the undertakings have earned nearly £445 millions, out of which they have been paid £261 millions,



leaving a clear profit to the Government of nearly £184 millions. The reference to the Government subsidising the railways arises from the fact that in 1946 the earnings were £11 millions below the minimum payment, with the result that, for the first time, the Government had to make a payment to the railways under the agreement, instead of receiving a handsome profit as it did in each of the previous five years.

It is known that operating costs are still rising, and it is therefore probable that the earnings in 1947 will decline further, but the Government cannot escape its share of the responsibility for this. As long ago as May, 1946, it asked the Charges Consultative Committee to recommend what alterations should be made in the level of railway charges in 1947 to enable the controlled undertakings to earn approximately their fixed annual payments. The Committee made its recommendations in November, but so far the Government has not announced its decision on the matter. In the meantime the general stoppage of industry caused by the fuel crisis in February and March has worsened appreciably the railway position, and made it all the more necessary that the charges should be raised to meet the steadily rising costs. The Minister promised to review the matter in the light of the position at the end of March, but, as no decision has yet been announced, it seems unlikely that the long-justified increase will be made until the beginning of July. In other words, the Government is preferring to let the community at large subsidise railway users.

The agreement also provides that Government control will be continued for a minimum period of one year after the cessation of hostilities, but that before control comes to an end, that is, before all statutory rights and obligations as they exist at that time again apply to the controlled undertakings, time will be given for the operation of any statutory machinery governing the level of charges. Therefore, it does not follow that, if the Transport Bill were rejected, the cancellation of the railway control agreement necessarily would take place, as the Government might find its continuance for a further period desirable in the national interest.

### Deterioration of British Postal Services

IT has well been said that there are none so blind as those who won't see. It is extraordinary that the public and the generality of traders and industrialists have not applied their experience of the Post Office in assessing their expectations of what the railways and transport services in general will be under nationalisation.

There has been ample evidence that as an employer the Post Office does not rank high and shows up badly in comparison with large-scale industrial organisations. It is essentially a soulless and impersonal organisation. The very size and completeness of the monopoly it wields makes it out of touch with its personnel, and on many occasions it has shown itself to be both autocratic and ruthless.

An interesting sidelight on what may happen in the future to transport services is given by a report in a recent issue of *The Evening News* that the Cabinet has ordered the curtailment of the nation's postal services as part of a campaign to economise in civil service labour. That newspaper suggested—and the Postmaster-General\* has confirmed in part—that among the restrictions which may be announced shortly are a reduction in daily deliveries from 3 to 2 in Greater London and the provinces, a withdrawal of the 8.30 p.m. restricted collection, and changes in the first delivery to economise in postmen, as a result of which many will receive their letters later in the day.

Last year, it will be recalled, the Post Office made a profit of over £36,000,000 free of income tax, all of which was carried to the credit of national revenue. In other words, it charged the public £36,000,000 more than it cost to provide that public with postal facilities. As Lord MacMillan pointed out recently, every 2½d. stamp which is bought at the present time involves a compulsory contribution to public expenditure; every letter is taxed. The Minister of Transport has let it be known that under a nationalised system, transport will have to pay its way. It looks, therefore, as if, instead of improving services, methods similar to those already common

to the Post Office will be applied to transport. With a monopoly there will be little check to a system under which greater revenue is secured by the provision of worse services.

The service given by the Post Office has deteriorated steadily since 1914; various reductions in the facilities given were made during the 1914-18 war which have never been restored, and still further curtailments were made during the recent war. It would now seem likely that not only are these not going to be reinstated, but that further cuts are to be made. The table given below shows a few instances of how the Post Office service has deteriorated since 1914:—

	Pre-1914	After 1918	Present time
Letter post, 4 oz. 1d.	... ..	2 oz. 1½d.	2 oz. 2½d.
Sunday morning delivery in the country...	... ..	Not restored	Not restored
Last post 6 p.m. W.C. and E.C. for delivery in suburbs same night	... ..	Not restored	Not restored
Last collection midnight	... ..	10 p.m.	6.30 p.m.
Telegrams, 6d. for 12 words	... ..	6d. for 9 words	1s. for 9 words

The Postmaster-General in the House of Commons on May 7 announced that it was not intended to restore the 7.30 p.m. and 9 p.m. collections or the 7 p.m. delivery in London, which were suspended during the fuel crisis. In future there would be three deliveries in London, and the final delivery would commence at about 3-3.30 p.m.; the final collection would be at 6-6.30 p.m. In the area contiguous to London the 8-8.30 p.m. collection would be withdrawn, and the number of deliveries would be reduced to two. It might be pointed out that the 9 p.m. collection to which Mr. Paling referred had not had a very long run before it was suspended by the fuel crisis.

### Canadian National Railways

GROSS operating revenues of the Canadian National Railways for 1946, as shown in the annual report, amounted to \$400,586,026, which was lower by \$33,000,000 than in 1945. After payment of operating expenses amounting to \$357,236,718, the net operating revenue was \$43,349,308. The net income available for the payment of interest was \$35,719,526, equal to a return of 1.78 per cent. on the total capital of the system. Interest payments due to the public and to the Government totalled \$44,681,096. Thus, after providing for interest, there was an income deficit for the year of \$8,961,570, as compared with an income surplus of \$24,756,130, in 1945. There was a sharp rise in expenses, due to higher wage rates and material costs. Wage increases added \$17,821,000 to operating costs, and the increased prices of fuel and materials added \$4,338,000 more, a total of \$22,159,000. The report points out that the official cost-of-living index in Canada stood at 127.1 per cent. in December, 1946, against 103.8 per cent. in December, 1939, an increase of 22.45 per cent. For the railways, the cost of living means the cost of labour and materials. Labour costs increased 37.1 per cent. between 1939 and 1946, and the cost of materials increased by 35.9 per cent. during the same period. The additional operating costs in 1946, as compared with the 1939 price level, amounted to \$88,767,000. Some results are compared in the table below:—

	1945	1946
Freight revenue	316,533,329	300,313,199
Passenger revenue	65,199,923	50,128,223
Total operating revenues	433,773,393	400,586,026
Total operating expenses	355,294,048	357,236,718
Net operating revenue	78,479,345	43,349,308
Net railway operating income	67,877,938	31,558,947
Total income	75,398,791	39,042,520
Deductions from income	4,314,519	3,322,994
Net income available for interest	71,084,272	35,719,526
Interest charges	46,328,142	44,681,096
Balance	Cr. 24,756,130	Dr. 8,961,570

The higher costs, which had been obscured by peak traffic conditions, became apparent as traffic volume diminished. Traffic began to decline in August, 1945, and the reduction continued at an increasing pace until June, 1946, when it began to level off. In the last quarter the trend moved upward, and there was an increase of 3.7 per cent. as compared with the corresponding period in 1945. For the full year, passenger train service revenue was less than in 1945 by \$17,267,000, and revenue from the carriage of grain decreased by \$14,726,000. The decreases in these two sources of revenue accounted in the main for the reduction in gross receipts. Passenger traffic changed in character. Passenger-miles decreased by 31.4 per

\* Hansard, May 7. Col. 435



cent., and revenues from fares by 23.1 per cent., but train-miles were only 4.1 per cent. lower. Passengers per carriage-mile decreased by 20 per cent.

Beginning in 1942, and continuing through 1945, reserves were accumulated against a possible decline in inventory values, and for repairs and renewals to track and equipment which had to be deferred on account of shortages of labour and material. These reserves were built up to a total of \$46,524,000. During 1946 some progress was made in overtaking deferred maintenance; \$13,524,000 was taken from reserves, and credited to the expense accounts which had been charged in the first instance. Capital expenditure during the year amounted to \$16,309,797. New equipment acquired included 16 diesel-electric locomotives and 856 box cars. The lines of the Manitoba Railway Company, which had been under long-term lease, were purchased for the capital sum of \$7,000,000, resulting in an annual saving of \$106,000. Reference is made in the report to a new line of railway in Quebec, from Barraute to Kiask Falls (approximately 55 miles), which will permit the development of the natural resources of the Bell River Valley; a contract was awarded for the construction of 39 miles in 1947.

Traffic handled and revenues earned by the Canadian National Expre s in 1946 were the largest in the history of the department. The total number of consignments was 18,937,707, an increase of 10.98 per cent. over 1945. Canadian National Telegraphs also experienced its best year, handling more than 12,000,000 telegrams and cables. During the year, experimental work was pressed forward on a radio relay system, linking Montreal, Ottawa, and Toronto, with a view to the expansion of commercial telegraph facilities. These experiments were conducted in collaboration with Canadian Pacific Communications and the National Research Council. A radio link between Toronto and Hamilton will be included. In pursuance of the administration's decision to undertake its own testing of materials, a well-equipped chemical and physical laboratory has been established in Montreal. Industry is making increasing demands on the services of the Department of Research & Development. The Department of Colonisation & Agriculture has been active in promoting the settlement of agricultural lands served by the railway. Last year, 1,439 families and 690 single men were settled on 253,742 acres; and 4,922 persons were placed in agricultural, forestry, and mining employment. The report is bound in a pictorial cover, and includes several pages of illustrations and a folding map of the C.N.R. railway and air services.

## The Interstate Commerce Commission, U.S.A.

THE 60th annual report of the Interstate Commerce Commission of the United States has reached this country. It is a closely printed book of 164 pages, covering the period November 1, 1945, to October 31, 1946. The contents are of much interest at this time, when Parliament is considering the transfer of transport in Great Britain from State regulation to State ownership. The I.C.C. is primarily a regulatory body, exercising many of the functions of our Ministry of Transport, and also taking the place of our Railway Rates Tribunal. The operating revenues of the eight types of transport subject to its supervision amounted to the huge sum of \$11,486 millions for the 12 months ended June 30, 1946. Details are shown in the table below:—

### OPERATING REVENUES OF CARRIERS (IN MILLIONS)

	\$
Steam railways ... ..	7,986
Electric railways ... ..	94
Railway Express Agency ... ..	306
Pullman Company ... ..	147
Water lines ... ..	192
Pipelines (oil) ... ..	288
Motor carriers of passengers ... ..	630
" " property ... ..	1,843
Total ... ..	11,486

The fiscal year ended June, 1946, was one of conversion from a wartime to a peacetime footing, and so it is not surprising to find that the total transport revenue was 12 per cent. below the aggregate for the record calendar year of 1944. The most severe decrease was 17.5 per cent. in steam railway revenue. The I.C.C. does not regulate air services, which are controlled by the Civil Aeronautics Board. Its report, however, contains estimates for 1945 of the volume of inter-city

traffic, public and private, by the different kinds of transport. So far as we are aware, no attempt has been made to compile such statistics in Great Britain. If we had particulars of passenger-miles and ton-miles as set out in the next two tables, we could discuss transport questions with more precision than is possible today.

### PASSENGER-MILES OF INTER-CITY TRAFFIC, U.S.A., 1945

	Millions	Per cent. of total
Railways ... ..	93,817	41.0
Waterways ... ..	2,056	0.7
Motor carriers ... ..	26,813	9.0
Private motorcars ... ..	179,837	58.0
Airways ... ..	3,507	1.0
Total ... ..	306,030	100

During 1945, the railways, waterways, and motor carriers of passengers all lost ground to private cars and air transport. The railways are likely to lose more business to these rivals during 1947—especially to the private car, which is ubiquitous in the States.

While the total passenger-miles in 1945 were 9 per cent. higher than in 1944, the 1945 ton-miles were 6 per cent. down.

The position is shown below:—

### TON-MILES OF INTER-CITY TRAFFIC, U.S.A., 1945

	Millions	Per cent. of total
Railways ... ..	690,991	68
Waterways ... ..	142,756	14
Pipelines (oil) ... ..	123,293	12
Motor carriers ... ..	55,619	5
Airways ... ..	91	0.01
Total ... ..	1,012,750	100

Waterways, which include the Great Lakes, and motor carriers improved their share of the freight business at the expense of railways and pipelines. Airways need not yet be taken seriously as freight carriers. We may add that the inter-city traffic represents 95 per cent. of the total ton-miles worked by the railways.

These tables indicate that the regulation of railway finance, charges, and operations is the main task of the I.C.C. The annual report, naturally, gives a good deal of space to a review of railway results, but its figures, coming down only to June or July, 1946, lack the freshness of the statistics furnished in Dr. J. H. Parmelee's survey of the complete year which was reviewed in our April 4, 1947, issue. The report mentions class rate, and classification enquiries at some length, showing that the American railways are wrestling with the same problem of simplifying present arrangements as is engaging the attention of our Road & Rail Central Conference. The I.C.C. is investigating also the charges on small shipments, weighing not more than 300 lb., by railway and by road common carriers. In a year these shipments number 1,500 million, weigh 20 million tons, and represent a revenue of at least \$1,000 million.

The I.C.C. has instituted the first thorough probe into the fares charged by road common carriers of passengers, with the object of ensuring adequate interstate bus transport at reasonable and lawful charges. Separate sections of the report deal with other activities, such as the inspection of rail and motor accidents, including safety devices. The report speaks about the limited staff of the commission, but its field organisation has a total of 16 district officers and 62 subordinate officers. The regular duties of this field staff cover applications for operating authority, accounting, enforcement of regulations, insurance delinquencies, and safety provisions. The number of reports handled is enormous, and detailed records are compiled, so that, for example, a timid traveller can learn that in a year 14,580 locomotives are inspected and 27,840 passenger-train coaches examined—only a small percentage being found defective.

The Bureau of Transport Economics & Statistics is an especially busy and useful department. It prepares a series of monthly, quarterly, and annual publications which give the American people prompt information about transport developments. Another phase of its work is the study of transport costs and the analysis of the flow of traffic by commodities. The custom of the I.C.C. is to pass on to the public knowledge acquired through studies conducted by its expert staff. Is it too much to hope that, in the event of the Transport Bill becoming law, the British Transport Commission will adopt a similar enlightened policy?

## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

### Shareholders of Nationalised Railways

P.O. Box 546,  
Haifa, Palestine. May 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—The editorial note, "Shareholders of Nationalised Railways," in the issue of March 7, as usual, packs a great deal of food for thought in a small basket.

So when, later, I read in the *Palestine Post* the enclosed news item, I wondered if Mr. W. Marshall Clark, in the same waggish vein, would not have headed "the two-page circular distributed among the 8,000 employees," and aptly, too, "Notice to Shareholders" had it been his.

#### RAIL WORKERS WARNED OF DISMISSALS

Haifa, Monday.—A 17-point memorandum was submitted to the management of the Palestine Railways by the committee to railway workers, containing their suggestions for retrenchment and improvements in order to avoid dismissals.

A protest mass meeting of the Palestine Arab Workers' Society addressed by Sami eff. Taha, General Secretary of the P.A.W.S., and by representatives of the railway workers, yesterday sent a telegram of protest to the General Manager of the Palestine Railways, Mr. A. F. Kirby, according to a P.A.W.S. spokesman.

A two-page circular, distributed among the 8,000 railway employees some days ago, explained that retrenchment was necessary now that the wartime boom was over, and the railways would have to "retreat to the peacetime level." The service must quote rates that can compete with other transport, and offer a good service, it was declared.

The staff numbered only 4,500 workers in 1935, but a reduction was envisaged to the 1940 level, since the railways were benefiting from increased transport of oil, cement and foodstuffs and were looking forward to industrial development, the circular said.

Temporary workers engaged during the war would have to go first, the statement said. Dismissals would be extended over a period of a few months "with as little dislocation as possible."

But, pleasantries apart, railway students may be interested in, and surprised at, the intimate acquaintance with, and the perception of, the problems of their directors, thus indicated, as being exhibited by the staff, a comparative youngster among railways. It would tax some very experienced critics of home transport undertakings to come back with a 17-point memorandum of proposed improvements, and inside a couple of weeks, too; admittedly the tasks of the respective critics may not be equally exacting.

Yours faithfully,

A. L. JONES

### An Ex-Railwayman's View

1A, St. Mark's Close, Barnet,  
Herts. May 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—May I, as a regular reader of your journal, an ex-railwayman, and railway enthusiast, have the use of a few lines in your column, in answer to "Seat Reservations," on page 464 of your issue of May 9, 1947, also hitting at another bird, at the same time, "shortage of staff."

I am interested in these few words on "Seat Reservations," "and that ample staff shall be available for the clerical operations of reserving seats, and for labelling, and so forth." Those few words are no defence against continued public pressure. If the railways had appreciated the experienced staff that they had access to, they would not now be in their present predicament.

I have 19 years' service with the L.N.E.R., covering in that period all duties in the London receiving offices, from pad messenger to special group checker. My training was from men on top of their jobs, my work dealt with all public enquiries, parcels rates, goods rates, market work, train reservations and times, ticket issuing, special party and excursion enquiries, and I had tact in dealing with the public over the counter, which seems to me to be a minor quality in some of the staff in those positions today.

I tried hard for elevation, from the wages grade to the clerical staff, on my practical knowledge of the work, before joining the Forces. I served my time with the R.A.F. and was demobilised as a clerk (special duties). I chose this mustering to help me reach my objective with the company, but, other than a routine interview, which the company could not refuse me, on my leaving the Forces, it would not consider me in any way. I applied to three more departments whose work I knew, but of no avail.

I obtained my release, and have since become a laboratory clerk in a quasi-government department, with more responsibility than a good many clerical grades of railway com-

panies; I have also obtained far better conditions and hours, and a considerable advance in salary. I have only been with them one year, but have already been up-graded.

This proves I know my work, as I knew my railway work. I would sooner be with the railways than anywhere else; it was hard to break from those machines, which hold so much interest at work and play. There are thousands more like me. We have the experience and interest in our concern, and will return where we belong, but not at the old price.

Yours faithfully,

J. A. FREEMAN

### Railways and Public Complaints

Great Western Railway,  
General Manager's Office,  
Paddington Station,  
London, W.2. May 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—Mr. G. R. Mitchison, Labour M.P. for Kettering, in a speech during the debate on the Third Reading of the Transport Bill in the House of Commons on May 5, is reported in *Hansard* to have said:—

If at present I have a complaint to make to one of the large railway companies or if I seek to ascertain some facts from them I find that the channels through which I have to go to get my information are at least as complicated—I believe far more complicated—than those of any Government Department, and that my approach to those companies is as effectively barred as my approach to any public authority whatever. I defy anyone to get as satisfactory a response from one of the large railway companies, if he goes to it as a plain ordinary man, as he would get from any public servant.

So far as the Great Western Railway Company is concerned public complaints and applications for information generally are taken very seriously. In the first instance, complaints are at least acknowledged on the day they are received, and in no case is there any failure to give a complete answer as soon as the facts are established. All departments are fully aware of the importance of dealing similarly with any complaint that may arise, whether it be small or large.

In the matter of our ordinary routine information to the public, you will be cognisant of the well-known efficiency of our Public Information Bureau at Paddington, which deals with an average of 3,000 inquiries per day, summer and winter.

Yours faithfully,

G. E. ORTON,  
Chief Officer for Public Relations

### Tube Train Destination Boards

Watford. May 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR.—In his suggestion for augmented facilities describing the destinations of northbound Bakerloo line Underground trains, your correspondent "Commuter," in his letter in your May 9 issue, appears to have overlooked an important consideration.

The proposed destination boards would be required on both sides of each car in order to be seen at all stations, and presumably changed and/or placed in position at Elephant & Castle. As Elephant & Castle is an Underground station in the full sense of the word, the fixing and changing of these boards would be well-nigh impossible on the sides of the cars facing the tube wall. Should the trains, in reversing from southbound to northbound, proceed south of the station to where, I believe, there are car-sidings (in tube), the fixing and changing would be impossible on both sides of the cars.

However, there would appear to be no reason why the suggestion from your correspondent should not be adopted on all Underground lines where reversal is effected at surface stations. In this connection I notice that the L.P.T.B. has destination (and in many cases nonstop) describing boards and panels on the sides of its District and Metropolitan line cars. At Watford (Met. & L.N.E.R.) I have seen the motemen and guards change these boards on the sides of the ex-Metropolitan Railway compartment-type cars.

Yours faithfully,  
FELLOW-COMMUTER

"WORK TO RULE" AT L.M.S.R. GOODS DEPOTS.—A "work-to-rule" movement was begun by over 3,000 employees at L.M.S.R. London goods depots on May 12. It was stated that the men had taken this action, which was against the advice of their union leaders, because their claims for increased wages and bonus had not been settled.

## The Scrap Heap

### RAILWAYMEN BLOW THEIR OWN TRUMPET

The Exeter & District Southern Railway Band was the Champion in a recent West of England Brass Band Contest, in which 12 bands competed.

Carpets made from Southern Railway rugs and tapestries were found in the homes of three employees, said the police at Dartford when two men were charged with theft and a third with receiving. One man was gaoled for a month, another fined £5, and the man accused of receiving was fined £10. He said he gave ten coupons for the tapestry found covering his floor.—From the "Evening Standard."

### PORTERS' TIPS—NATIONALISATION PROBLEM

"How could profits be shared in the trades which are to be nationalised?" Sir Harold Kenward, Dunlop's Director of Distribution, asked the Rotary International Conference, at Douglas.

"Shall we expect much profit from these State undertakings, and, if so, is it good economics for the State to make profits by charging twopence-halfpenny for a pennyworth of service, as in the Post Office? Is the postman to share in the spoils of public exploitation, and are the porters' tips to be taken into consideration before allocating to him his share of railway profits?"

One good result of nationalisation of the railways will be that, presumably, tipping of porters, as of other public servants, will not be allowed. All railway servants will be in the same position as Civil Servants, who cannot accept gratuities.—T. T. Barnes, Walsall, in a letter to "The Daily Telegraph."

### WHERE PAPER GOES

Common complaint of book publishers is that paper shortage prevents them bringing out worth-while books and severely limits authors' profits.

True it is that they are getting less paper than before the war; but they are treated much more generously than newspapers and periodicals.

Mr. Belcher, Parliamentary Secretary to the Board of Trade, has just given the figures. Before the war, books used up 63,000 tons of paper a year; in 1946 the figure was 54,000 tons—85.71 per cent. of the pre-war quantity.

Newspapers have been cut drastically from 1,100,000 tons a year to 327,000 tons. Thus, they are getting only 29.73 per cent. of their old requirements. Periodicals get about the same percentage.

It is a different tale when we consider

the Stationery Office and other Government departments. Far from suffering a cut, they have vastly increased the amount of paper they use. The figure has gone up from 40,000 tons to 71,000—177 per cent. of the pre-war figure.—From the "Evening Standard."

### LONDON POSTAL SERVICES

In the early years of the last decade of the nineties W. T. Stead, writing into the small hours in Wimbledon—till about 3 a.m. in fact—could post his "copy" to his office in Norfolk Street, Strand, with the assurance that it would reach there by the first post on the same day. Writing today in Notting Hill Gate, hard by its chief post office, one has, in order to secure delivery by the first post on the following day, to drop one's letters into the box soon after 6 p.m. That outgoing mail is the last of the day!—Mr. Grant Richards, in a letter to "The Times."

### "SIMPLON EXPRESS" VISA DIFFICULTIES

One of the most famous land communication services in Europe, the "Simplon Express" has been resumed, after much delay.

For the time being the train consists only of one through coach from Paris, which is attached after Trieste to Yugoslav and Bulgarian trains, and reaches Istanbul attached to the Adrianople-Istanbul express; it runs now three times a week each way.

The greatest difficulty is the obtaining of visas through Bulgaria and Yugoslavia, which takes from two to four weeks, and therefore reduces the number of prospective passengers. Nevertheless, in spite of these shortcomings, the resumption of this means of communication is the first step towards a return to normal conditions, and as such has been warmly welcomed in Turkey.—From "The Times" Istanbul correspondent.

### 100 YEARS AGO

From THE RAILWAY TIMES, May 15, 1847

#### EXTENSION OF TIME.

**TO CONTRACTORS.**—The DIRECTORS of the CHESTER and HOLYHEAD RAILWAY COMPANY are desirous of receiving TENDERS for the ERECTION of the STATION BUILDINGS at the following places:—

Queensferry.  
Flint.  
Greenfield.  
Mostyn.  
Prestatyn.

Rhyl.  
Abercromby.  
Conway.  
Aber.  
Bangor.

The plans and specifications may be seen at the Company's office, Watergate-street, Chester, on the 1st of May, upon which day it is requested that parties proposing to tender do attend at eleven a.m., for the purpose of appointing their surveyor.

Tenders, endorsed "Tenders for Station Buildings," to be sent to the Company's office at noon upon the 27th of May. The Directors do not bind themselves to accept the lowest tender.

Chester, April 15, 1847.

### RAILWAY HELP IN A SNOWSTORM BIRTH

We are indebted to Sir Ronald Matthews, Chairman of the London & North Eastern Railway, for permission to publish the following letter as illustrating a somewhat unusual aspect of railway operation. The letter was received by Mr. I. V. Longley, District Locomotive Superintendent, Newcastle, concerning an incident which occurred during the blockage of the Newcastle to Carlisle line during one of the March snowstorms.

### LOCOMOTIVE RUNNING DEPARTMENT.

L.N.E.R.,  
Gateshead Shed.

April 24, 1947

I. V. LONGLEY, ESQ.,  
NEWCASTLE

Blockage of Carlisle Line Snowstorm,  
March, 1947

DEAR SIR,—With reference to my previous report on the above, you may remember that on the night of March 13 it was found that the Gateshead breakdown train would have to remain at Gilsland Station awaiting the arrival of the snow plough from the South. The men were made as comfortable as possible and at about 3 a.m. I heard footsteps outside my riding van.

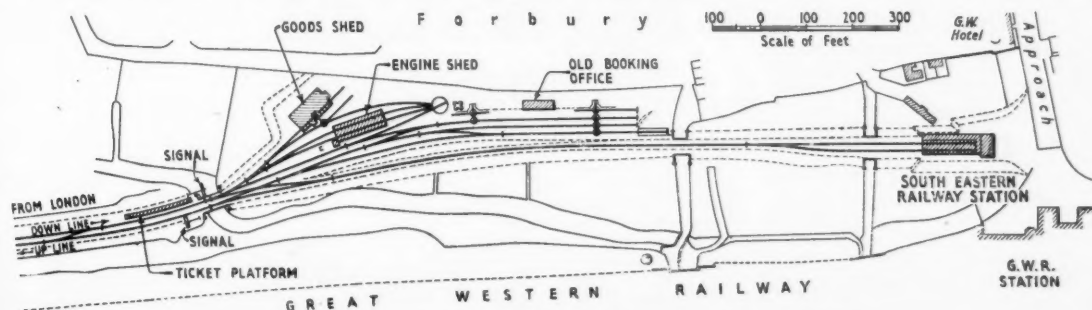
Thinking it might be one of my own men, I investigated and met a very forlorn young man who asked whether I was a doctor. On my replying that I was not, he said he did not know what to do, and must have the services of a doctor as quickly as possible as his young wife was about to be confined, and the doctor he had consulted could not get nearer than Greenhead, three miles away, owing to the depth of snow. Furthermore, the nurse who had been engaged could not get to Gilsland for the same reason.

I felt that some effort should be made, and having ascertained that the doctor could be communicated with on the telephone, I told the youth to ask him to be at Haltwhistle Station at 4 a.m. and that a light engine would be there to convey him to Gilsland. I then instructed the driver of the engine, which was attached to my train, to proceed to Haltwhistle and pick up the doctor, and this was done.

At about 10 a.m. the same youth, but now beaming and the father of a sturdy son, approached me and asked if it would be possible to convey the doctor back to Haltwhistle. Having seen the doctor, and informed him that it would mean riding on the engine at his own risk, I made the necessary arrangements.

The above was one of these interludes which occur from time to time and I was very pleased to have been able to be helpful.

Your faithfully,  
B. H. HARPER



A station layout of 1855; the South Eastern station at Reading



## OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

### SOUTH AFRICA

#### Demand for Holiday Bonus

In consequence of the repeated demands of railway artisans for an annual holiday bonus, and the "go slow" strike which followed them, a Government commission has been appointed to inquire into the matter. The Hon. Mr. I. Grindley-Ferris has been appointed Chairman. The commission will inquire into the conditions of employment of artisans employed in the Union (a) under the Railway Administration and (b) under other employers, with a view to deciding the extent, if any, to which the average of the former is inferior to the average of the latter; the investigation to take into consideration wage scales, hours of duty, rates of payment for weekday overtime, and Sunday duty, the value of privileges in cash and in kind; and any other reckonable factors in respect of the various trades and industries. In the light of the conclusions reached, the commission will consider and report upon the validity of the claim for payment of a 7½ per cent. holiday bonus to railway artisan staff.

### INDIA

#### Railway Grants Approved

The Standing Finance Committee for Railways has approved the railway grants for the year 1947-48. Among special items, the committee approved of notice being given for the purchase of the Mymensingh Bhairab Bazar Railway, a branch line being worked at present by the Bengal Assam Railway. The purchase price is estimated at about £1,000,000. The committee also approved the proposal to double the line between Cawnpore and Ekdil on the East Indian Railway at a cost of about £750,000; the provision of improved goods facilities at New Delhi Station at a cost of about £17,000; and the provision of a new station building and platform at Ahmedabad at a cost of about £28,500.

#### New Rolling Stock Prototypes

A newly-designed passenger train, the "Silver Arrow," has been on exhibition at New Delhi Station. Notable improvements in the third class coaches are the upholstered bunks, drinking-water alcoves, and a more spacious lavatory. Pressure ventilation, diffused lighting, chromium-plated fittings, and greater seating and sleeping capacity are the main features of the new first class coach. There is also an air-conditioned *de luxe* class coach, of the corridor pattern, with two-berth lounge-cum-sleeping compartments. A preview of the train was held on March 29, and among those who inspected the vehicles were Pandit Jawaharlal Nehru, Dr. John Matthai, Sardar Baldev Singh, and Mr. Ghazanfar Ali Khan.

#### The N.W.R. in 1945-46

The North Western Railway during 1945-46 carried over 161 million passengers, worked 6.879 million passenger-miles, charged 0.37d. per passenger-mile, and carried passengers over an average haul of 42.7 miles. During the year, the earnings for passenger traffic amounted to about £10,600,000; 15.4 million tons of freight originated, yielding a revenue of about £12,300,000. The average haul for a ton of goods was 245 miles, or 5 miles greater than in the previous year. The

average rate charged per ton-mile was 0.78d., and the net ton-miles worked rose to 3,771 million.

The most remarkable feature of the statistics is the very steep increase in the working expenses, from £1,520,000 in 1944-45 to £2,160,000 in 1945-46, due to an increase in the scope and scale of dearness allowances. The railway had 134,478 employees on its payroll, and the wages bill amounted to £7,400,000. The railway workshops at Karachi during the year erected 99 "AWD," 140 "CWD," and 3 "MAWD" locomotives.

#### Relieving Congestion in Calcutta

To facilitate industrial development, and relieve the serious over-crowding of the Greater Calcutta area, the Bengal Government has acquired an extensive area of land north of Kanchrapara Station, about 34 miles from Calcutta, on the Bengal Assam Railway main line. The land was until recently at the disposal of the U.S. Army, and now will be used for the new Central Government locomotive workshops (see *The Railway Gazette* of March 7).

### WESTERN AUSTRALIA

#### Oil-Burning Experiments

In 1936, experiments were carried out in the use of oil fuel on the Western Australian Government Railways, with the object of gaining information that would be of value in the event of a major stop-

inability to augment stocks sufficiently from other sources, five engines were converted temporarily to oil burning, and continued in service as oil burners until the middle of 1946, when, in view of the easement in the coal position, they were reconverted to coal.

#### Surplus Engines from Great Britain

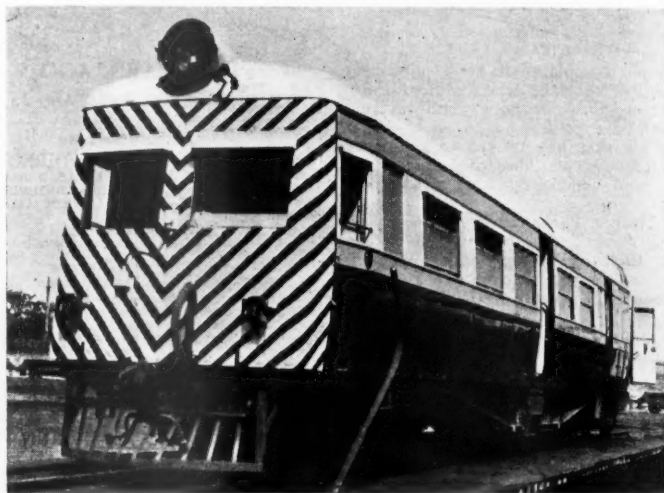
At the same time, extreme shortage of locomotive power in Western Australia, largely on account of the war years, caused inquiries to be made overseas for new locomotives, and it was found that 14 4-6-2 locomotives of 3 ft. 6 in. gauge were surplus with the British Ministry of Supply. These engines, built by the North British Locomotive Co. Ltd., were intended for use on the Sudan Railways, but, with an alteration in the military situation, were not shipped abroad, and consequently were available for sale. These engines were equipped to burn oil, but were readily convertible to coal burning.

It was decided to purchase the engines, and all the 14 are now in service in Western Australia. It was decided also that the engines would be kept as oil burners, for the time being at least, and this decision has been implemented by the installation of oil-fuelling plants at suitable points. The locomotives are giving very useful service in their present condition, and a decision to convert them to coal burning has been deferred for the present. [See also our issues of September 17, 1943, and April 12, 1946.—Ed., R.G.]

#### Reducing Level-Crossing Risks

A feature inseparable from an undertaking such as the Western Australian Government Railways is the large number

#### Making Railcars Conspicuous at Crossings



Western Australian railcar with ends specially painted so as to be seen at a distance when approaching level crossings

page of work in the Collie coalfields. One locomotive only was fitted, and the trials, while establishing the practicability of oil-firing, showed that on a cost basis oil could not compete with local coal, although as an emergency measure there were advantages in oil as against imported coal. It is believed that this was the pioneer trial of oil burning in locomotives in Australia.

In 1945, after continued shortages in coal supplies from the local mines, and

of level crossings, particularly in country districts. The growth of fast-moving traffic on the roads has created a danger which practically was non-existent in the days of horse traffic.

The advent of the railcar has brought an added hazard to level crossings. These vehicles move faster and are quieter than the steam train, and country residents have complained that the cream-and-green colour scheme adopted by the department merges into the countryside background

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colours, thereby making them practically invisible except at short distances.

To eliminate this suggested danger, a novel attempt is being made to ensure public safety by painting the ends of the cars with a distinctive pattern. One car has been painted at the ends with converging diagonal black and white lines, 4 in. wide, producing a rather startling and bizarre effect reminiscent of ship camouflage during the war. Inspection revealed, however, that this was ineffective at distances of from 300 to 400 yd., and another car is being painted with black and yellow lines of 8-in. width. Although these colour schemes detract from the appearance of the cars, the safety aspect is considered of greater importance.

#### B.E.M. for Engine Driver

Driver Joseph Richard Jones, of West Midland, has been awarded the British Empire Medal for heroism displayed in June, 1942, while driving a train of wagons containing heavy ammunition.

On June 13, 1942, Driver Jones was in charge of an ammunition train which was being moved from Perth to inland dumps, and containing, among other items, 1,000-lb. bombs. When near Spencer's Brook, Driver Jones noticed one of the trucks of bombs on fire, and bringing his train to a stop he put out the fire with buckets of water, which he carried from the engine, making several trips to and from the engine for this purpose. His prompt and courageous action prevented what could have been easily a major disaster, with loss of life and heavy damage to property. Driver Jones is a native of England.

### UNITED STATES

#### New Transcontinental Service

A new Milwaukee high-speed train, the "Olympian Hiawatha," will begin to operate on a 45-hr. schedule over the 2,200 miles between Chicago, Milwaukee, Seattle, and Tacoma on June 29. The service will be maintained by six train sets, each consisting of 12 vehicles and including a recreation car with restaurant and cocktail lounge, reclining day coaches, and sleeping cars with exceptionally wide berths.

Between Chicago and Minneapolis, the train will be hauled by 4,000-h.p. diesel-electric locomotives. Three-unit 6,000-h.p. diesels will be in charge for the entire distance between Minneapolis and Tacoma—thus departing from the company's usual practice of electric working across the Rocky, Bitter Root, and Cascade Mountains. The present Milwaukee transcontinental train, the "Olympian," will be renamed the "Columbian," and its schedule will be altered slightly, when the new service begins to operate.

### BRAZIL

#### New Paulista Locomotives

The first electric locomotive of a batch of 18 ordered in 1941 from the General Electric Company has arrived in Brazil. It weighs 172 tons, and was brought from the U.S.A. on the deck of a steamer of the Moore-McCormack Line. The original order for 18 locomotives has since been increased to 94.

#### San Paulo Expropriation

The expropriation of the San Paulo Railway was concluded formally by a ceremony at the Ministry of Transport last November (see *The Railway Gazette* of September 20 and December 27, 1946), when the official Acts were signed and the railway was handed over to the newly-

appointed Superintendent, Sr. Romero Zander. Sr. Ricardo Xavier da Silveira, Sr. Antonio Leme da Silveira, and Mr. A. Wellington attended on behalf of the railway company; and Mr. A. H. W. King, British Diplomatic Representative, also was present.

After the reading and signing of the Acts, the Minister of Transport, addressing the former Superintendent, Mr. Wellington, paid tribute to the work performed by British engineers in the transport industry of Brazil. Mr. A. H. W. King replied suitably. The San Paulo Railway will be known henceforth as the Estrada de Ferro Santos—Jundiai.

### BOLIVIA

#### La Paz to Beni Railway

The Bolivian Government has approved the resumption of building the railway from La Paz to Beni. Work will begin at Estacion Ingeniero Tejada, where the project was abandoned in 1925. The line from this point to La Paz will be approximately 400 km. in length. If construction of the first 53 km. begins in the near future, it should be finished by about October, 1948. The railway is of metre gauge.

### FRANCE

#### Oil-Burning Locomotives

On account of the coal shortage, the S.N.C.F. last year decided to use oil fuel in the 620 "282-R" class locomotives ordered from America. Of these, 300 arrived equipped already as oil-burners, and 320 are to be converted for oil-burning in France. The conversion will involve heavy financial charges. It is necessary to remove from the 320 engines the very efficient mechanical stokers with which they are equipped. It is estimated that 100 storage tanks, some with a capacity of 1,000 cu. m., will be required at locomotive depots. The whole outlay is put at more than fr. 500 million, or £1 million.

#### Fifty Oil Burners in Service

The first 50 "242-R" locomotives, equipped as oil burners, are in service already in the Marseilles region. By the end of the year, all the 620 locomotives of the class will be working in the following regions: Eastern Region, 90; Western Region, 180; South-Eastern Region, 350.

One oil-burning locomotive is undergoing tests at Vitry. Results already obtained show that when fitted with the American type of burner and steam pulverisation, the engine develops 2,000 h.p. at the wheel rims, with a possible increase to 2,500 h.p. This power is ample for operating a large number of French trains. Fuel oil supplies available for the S.N.C.F. in 1947 amount to 600,000 tons, and in subsequent years will exceed a million tons.

#### Railways Help the Flower Trade

The flower-growing industry in the French Riviera is of special importance to France as a source of export trade. For many years the railways have devoted special attention to the rapid transport of flowers to French and foreign towns. Before the war, the total transport of flowers ranged from 10,000 to 13,000 tons a year. Lack of labour, fertilisers, glass for greenhouses, and coal for heating them, practically paralysed this trade during the war. Since last October, however, the flower trade has benefited by an increase in the number of trains and their speed, bringing the transport service nearly

up to its pre-war level. The fastest trains complete their journeys in barely an hour more than the pre-war time.

A train leaves Nice at noon to collect flowers from the coastal towns for Lyons and Savoy, where they arrive early next morning. Other services collect packages of flowers between 6 p.m. and 9 p.m. As an example, a train leaving Nice at 7 p.m. arrives in Paris next day at 5.42 p.m. On several routes, consignors are able to use regular services of refrigerator vans. The S.N.C.F. not only has speeded up deliveries of flowers, but also has organised a new scale of tariffs which offer advantages to the flower industry.

#### Reconstruction of Amiens Station

In reconstructing the station at Amiens, the opportunity has been taken of providing the town with a transport centre of modern design. The platforms are below ground level, and are reached by staircases from the main building, which faces a large square. Road traffic approaches the station on two different levels, and a modern coach station is laid out in the immediate vicinity.

Not only the structure as a whole, but the floors, ceilings, and partition walls of the station building are of reinforced concrete. An impressive main entrance at street level leads into a hall about 150 ft. long, 80 ft. wide, and 55 ft. high. The centre of the hall, opposite the entrance, is occupied by the booking office, with 15 counters. On each side of the booking office, passages with ticket barriers lead to the footbridge from which the stairs lead down to the platforms.

The entrance hall is flanked by two three-storey wings. That on the left contains the luggage offices, which are connected with the platforms by means of lifts and ramps. In the right-hand wing there is an inquiry office, with a refreshment room and restaurant behind. The upper floors of both wings are occupied by administrative offices.

### ITALY

#### Higher Fares to Cover Wages Costs

It is felt generally that the demand for a substantial increase in railwaymen's wages is justified in view of the rapidly increasing cost of living, and both the Government and the State Railways have agreed to the claim. In order to meet the additional expenditure, passenger fares are to be increased in the near future by a further 200 per cent. compared with the pre-war level, and goods rates by a further 300 per cent. Recently the men stated that their monthly wages were barely sufficient for a fortnight, and their claims are backed by stressing their work in the restoration of services and the rehabilitation of equipment.

#### Milan Central Station

The reconstruction of Milan Central Station is complete so far as the track layout is concerned, and trains are being worked normally over the whole station area. Restoration of the station building, however, is far from finished, and the roof is still without glass. The provision of a temporary aluminium sheet cover is being discussed. Passenger traffic at the station averages 110,000 passengers a day, as compared with a daily pre-war average of 80,000 passengers. This is despite the reduced number of trains, amounting to some 280 or 300 a day, as against a daily average of 450 trains before the war.

## Novel Use of Locomotive in Greece

### *Improvisation to free grounded vessel*

ON December 22, 1945, a locomotive and two wagons were loaded on a Liberty ship at the port of Piræus (see Fig. 1 on page 503) to open a stretch of line of the former "Simplon Orient Express" route between Styli-Styrfaka-Gorgopotamos, so that the chromium ore produced in the district could be brought to the port of Styli for shipment. Because of the draft of the ship, it was necessary for the locomotive and wagons to be transferred at Volos to a L.C.T. which would then land them on a specially prepared jetty at Styli.

All went according to programme until the evening of December 26, when the L.C.T. ran into bad weather and eventually grounded (Fig. 2). All efforts to free the vessel under its own power failed, and, in addition, the electric capstan motor burned out. Four Greek two-masters with auxiliary engines were called in next (Fig. 3), but their combined effort was of no avail, nor was the Greek Admiralty able to provide assistance.

Through the intervention of the Director of U.N.R.R.A. in Greece, the services of a 1,000-ton 3,000-h.p. British tug were obtained; it arrived on the scene on December 29. The first attempt with a 15-in. 1,500 ft. long manilla rope failed, as the rope parted on the first pull. A steel hawser was then tried, but it slipped the capstan and entangled itself in the tug's propeller, thus necessitating the help of a diver (Fig. 4.) All operations were suspended until the next day.

Mr. Koen, Chief Assistant Mechanical Engineer, Greek State Railways, now in this country studying electro- and oxy-acetylene welding methods, then had the idea of using the locomotive to free the vessel. The L.C.T. anchor was taken about 600 ft. to the stern of the craft, nearly in line with the axis, as shown in Fig. 5, and there dropped. It was connected next to the locomotive by a steel hawser and the locomotive brought to running order.

The total weight of the craft, locomotive, and two wagons was 470 tons, and

as the displacement at the time the pull was to be made was calculated at 165 tons, the actual load to be pulled was 305 tons, to which should be added the friction of the hull on the sea bed. This was calculated as 137 tons with a coefficient of friction of .45. The tractive effort of the locomotive was 14,000 lb., capable of pulling 600 tons on the level, and, therefore, leaving a good margin.

### **Operation Successful**

Before the pull, the engine was run backwards and forwards, to enlarge the trough in the sea bed. The locomotive was then attached by chains to the L.C.T. as a precaution against the possibility of its falling overboard should the L.C.T. free itself suddenly or the hawser break.

A first pull was attempted to take up the slack. The second pull turned the L.C.T. by 2 deg. and moved it by 3 ft. 6 in., the third moved it by 6 ft. 6 in., and the fourth by 7 ft. The fifth and last pull completely freed the vessel, which then proceeded under its own power to the jetty and landed the locomotive and wagons successfully.

## Track Defects Revealed by Magnetic Tests

### *Notes on experience gained on the Denver & Rio Grande Western Railroad in the Magnaflux method of inspecting rails, fishplates, welded joints, track tools, and chains*

MR. RAY MCBRIAN, Engineer of Standards & Research, Denver & Rio Grande Western Railroad, recently addressed a track-inspection section—of which he was chairman—of a Railroad Magnaflux Conference at Chicago. He dealt with the various applications of this form of magnetic fault detection on his railway, and below is a summary of his remarks.

On the D. & R.G.W.R.R. tests for rail defects are carried out regularly every spring and autumn with the aid of Sperry detector cars, but in the intervals between these tests, rail failures still persist. To meet this danger, each track inspector and roadmaster is now equipped with a light portable Magnaflux testing plant.

The plant consists of a 40-volt, 300-amp. petrol-driven generator set—mounted on a push trolley hauled by a motor inspection-trolley—together with an Alnico magnet, a rubber-bulb sprayer, and a tin of Magnaflux powder; portable grinders and power brushes also are issued. With this equipment, incipient defects in rails, fishplates, welded joints, track tools—both new and reconditioned—and chains are detected, enabling defective parts to be removed and repaired or replaced before the danger points of the defects are reached. To achieve this detection, the part to be tested is magnetised and then sprayed with the powder, which accumulates along the length of any defect in the surface of the metal.

### **Special Cases**

In addition to the regular, normal rail tests by this method, it is also used in special cases such as are outlined below. In the famous Moffatt Tunnel, 6.2 miles long, there are some 1,900 rail joints, which were welded first some years ago by the Thermit method. So that clamps could be attached to the rail ends for bringing them together for welding, a hole had to be drilled in the end of each rail. As the section of line in which the tunnel is situ-

ated is steam-worked, severe corrosion takes place, and this and abrasion together have been found to reduce the rail running surfaces in the tunnel by about  $\frac{1}{8}$  in. every year.

When a certain amount of corrosion and wear had occurred, the stresses in the webs round the holes produced stress-corrosion cracks, and defects in some of the welds were also noticed; therefore, it was decided to determine the type and extent of all these defects with the aid of the Magnaflux equipment, and so arrive at which point rails had to be replaced.

In another five-mile length a number of fractures in the controlled-bearing type of fishplates were reported. All the plates accordingly were tested by this method; it revealed cracks developing in the top bearing surfaces of the plates at the ends of the rails and spreading downwards. The plates were removed and tested with one of the portable units, and those with shallow cracks were ground and put back again; others with deep cracks were replaced by fresh plates.

### **Routine Testing**

Because rails at level crossings can be examined only when the crossings are opened out, at perhaps two- or three-year intervals, it was decided that whenever opening out took place, Magnaflux testing should be carried out as part of the routine to ensure, as far as possible, that risk of fracture should be eliminated.

On the mountain sections of the system this form of test has proved particularly valuable in preventing such fractures as are liable to occur on sharp curves. The risk here is much greater than in straight, level track, as cracks develop more rapidly, especially on curves of 15-ch. rad. and sharper, and are more difficult to detect in time by the eye. The steep grades also induce head-cracks in the rails, mainly where heavy cant necessary for fast passenger traffic throws excessive strain on the inner rail under slow-moving heavy

freight locomotives. These defects are not always detected by the electrical method, but the depth and width to which they have extended can easily be ascertained by applying the portable Magnaflux method.

Fillet cracks in the outer rails on curves that were only three or four years old have proved troublesome in recent years, and this method of detection has proved most useful here also, especially when used in conjunction with a procedure involving a product known as Stresscoat.

### **Cause of Fillet Cracks**

To determine the cause of these cracks, a coating of this substance is applied to the surface of the metal, and the type and approximate extent of the stresses in the steel are shown by the action of the coating.

If the steel is loaded in compression, a flaking action occurs in the Stresscoat, whereas if loaded in tension, cracks appear in the coating at right angles to the direction of the applied load. In road tests, both sides of outer rails on curves were sprayed with Stresscoat, and throughout a 24-hr. period were examined after the passing of every train. On curves of 30-ch. rad. and sharper, where the speed of certain locomotives normally was restricted to 45 m.p.h., it was found that if their speeds were allowed to rise to about 55 m.p.h., compression flaking occurred in the coating over the fillets on the outside of the outer rail, and tension cracks on the opposite side. The compression flaking was the result of a stress of about 33 tons per sq. in. in the outside fillets.

To guard against defects in track tools and chains, portable Magnaflux detecting sets are similarly used. All new tools are tested, and reconditioned tools are inspected both before and after reconditioning. Each chain throughout the system is tested every six months, and if the powder discloses any transverse defect, the chain is scrapped.

Mr. McBrian concludes by issuing a word of warning, namely, that considerable experience is required by operators to enable proper interpretations to be placed on the results of tests, according to our American contemporary *Railway Engineering & Maintenance*.



# Novel Use of Locomotive in Greece

(See article on page 502)

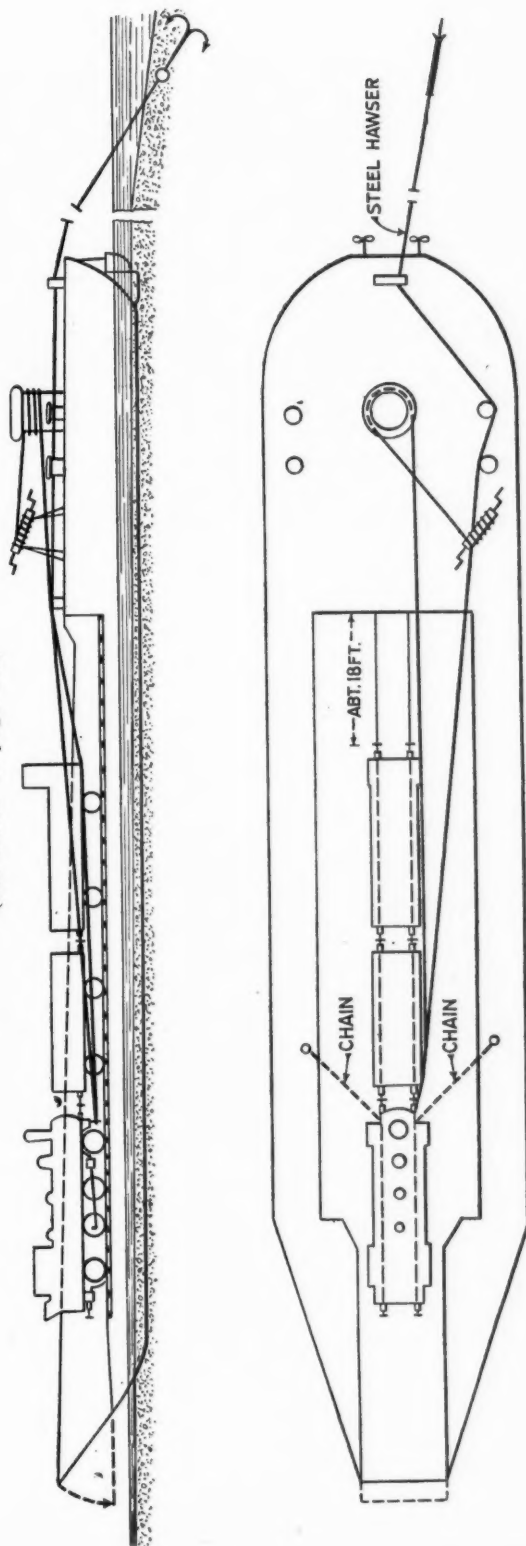


Fig. 1—General arrangement showing locomotive on L.C.T. and hawser connecting it with anchor

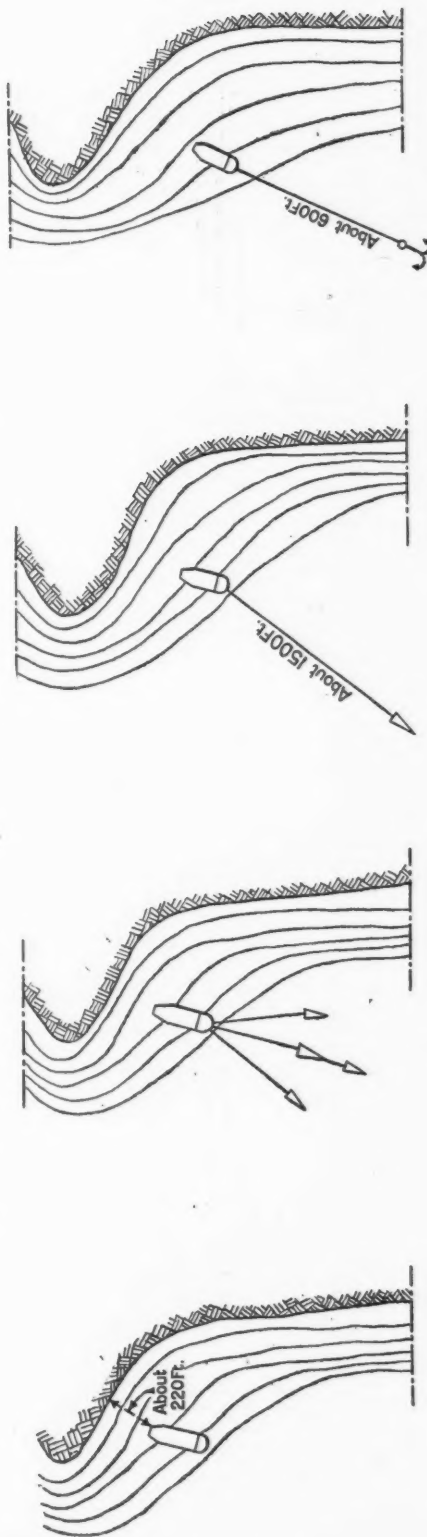


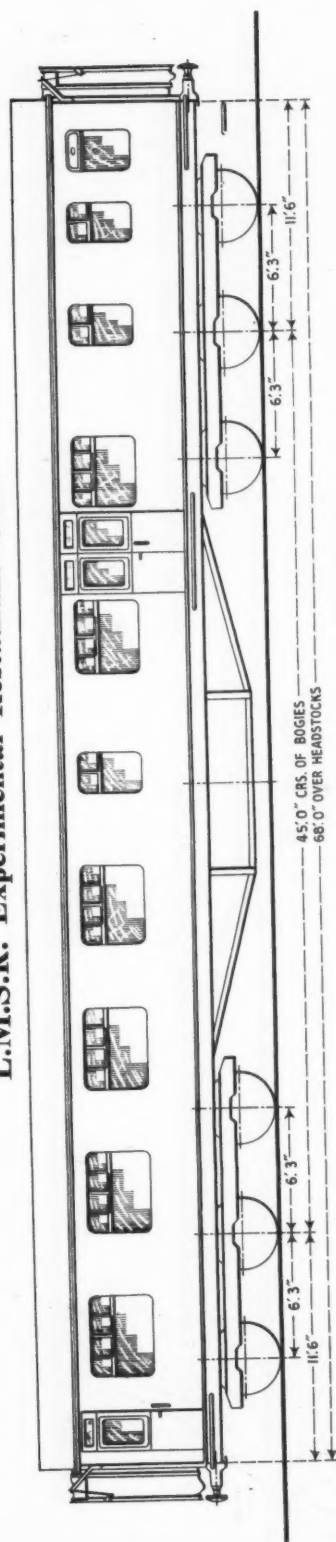
Fig. 2—L.C.T. grounded off shore

Fig. 3—Four ships attempting to free L.C.T.

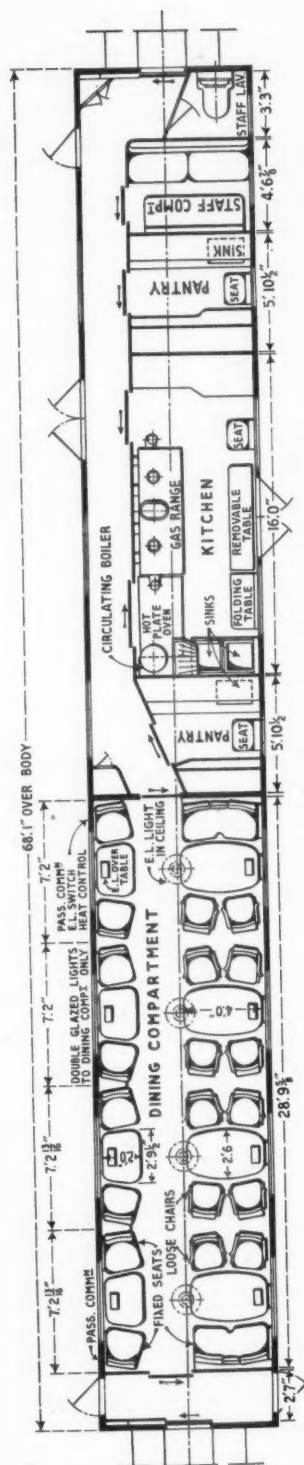
Fig. 4—Tug brought in to refloat L.C.T.

Fig. 5—Hawser connecting anchor with locomotive on L.C.T.

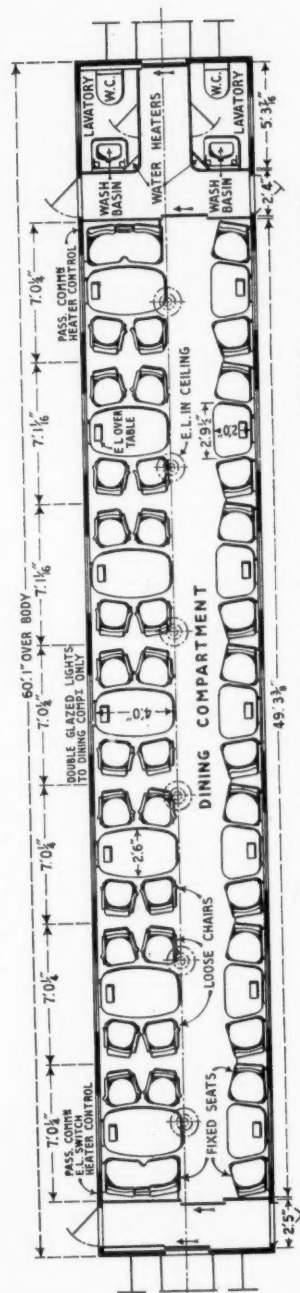
# L.M.S.R. Experimental Restaurant Cars



*Elevation of L.M.S.R. remodelled first class restaurant car*



*Layout and principal dimensions of first class restaurant car*



*Plan of remodelled first class vestibule car showing seating and lighting arrangements*

## L.M.S.R. Experimental Restaurant Cars

*These forerunners of a series of remodelled dining cars embody a number of welcome innovations*



*New design of fixed seating at tables for two persons*

**I**NCREASED floor and table space, separate chairs, double-glazed windows, and improved lighting, heating, ventilation, etc., are outstanding features of two experimental restaurant cars placed in service by the L.M.S.R. on Monday last. These cars, which are illustrated with this article, are the forerunners of a series of five first class and five third class dining cars to be brought into use as soon as practicable.

### Objects of New Layout

The interiors of the cars have been remodelled from a vestibule car and a restaurant car, with two main objects in view, first, to provide more room for the movement of passengers and restaurant car staff, and, second, to introduce standards of furnishing, decoration, and equipment in advance of anything yet achieved within the physical limitations of a railway vehicle.

The use of movable chairs instead of fixed seats in the new vehicles affords a substantial increase in space and considerable freedom of movement. Not only can passengers on the window side leave the tables without disturbing passengers in the

chairs on the gangway side, but individual service to passengers by the attendants is facilitated, as the waiters can serve from behind each chair.

A new type of table lighting, by means of wall fixtures above each table in conjunction with non-glare ceiling lamps, gives improved illumination. New interior panelling, in plywood and leather, has been designed to conform to the upholstery in a general colour scheme based on the L.M.S.R. colours of maroon, straw, and grey. Double-glazed fixed and sliding ventilator windows prevent condensation and keep the glass clear at all temperatures.

The two cars, both of which were modified in the L.M.S.R. works at Derby, embody the same general principles of layout and equipment, with slight differences in minor fittings. The vestibule car, weighing 32 tons, will seat 42, and the restaurant kitchen car, weighing 47 tons, will accommodate 24 passengers, the length of the vestibule car dining compartment being 49 ft. 3½ in., and that of the restaurant car, 28 ft. 9½ in.

The seating plan conforms to that of a normal restaurant car, one side of the

coach being fitted with small tables seating two, and the other with larger tables seating four. The single seats at the small tables, and also the double seats against the doorways, are fixed, but all the remaining seats are movable chairs.

An increase in table surface area has been achieved both for small and large tables. The tables have curved sides with square ends, and have been specially designed to give more table surface space, from 25 to 30 per cent. in the large table and up to 50 per cent. in the small table, and to allow the movable chairs to be placed at right angles to the table edge without impinging on the passage-way.

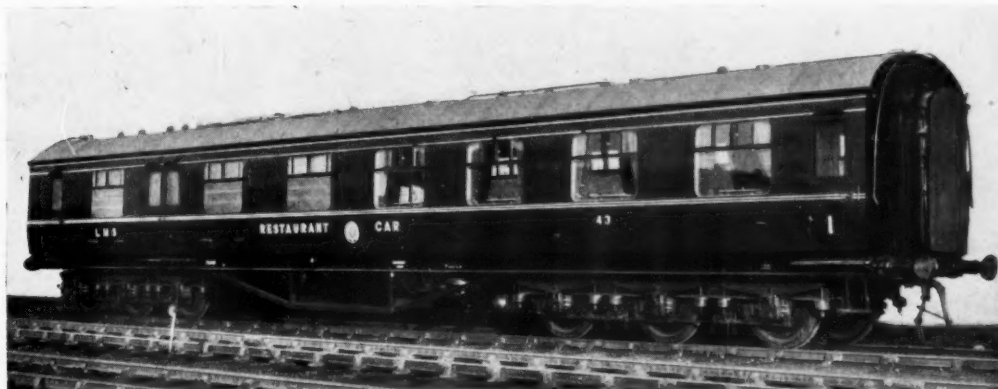
### Freedom of Movement

The passage width between table ends is 2 ft. 1½ in., but the new layout makes it appear wider, an effect largely due to the use of the movable chairs which allow attendants to step in behind them and leave the passage-way clear for anyone wishing to pass. As a result, the facilities for the movement of passengers and attendants are greatly improved.

After a number of practical tests, the chair heights were arranged to conform to the new tables, which are 2 ft. 4½ in. in height, or slightly lower than the usual hotel table. A new design of table suspension includes rubber insulation to prevent vibration and a single pedestal support to minimise leg obstruction. These adjustments, coupled with the fact that passengers are able to alter the position of the chairs to suit their individual needs, provide maximum comfort possible under restaurant car conditions.

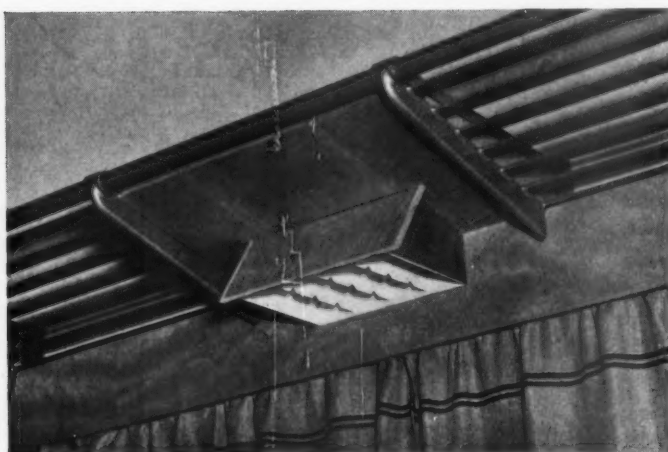
Both the fixed seats and the chairs have been designed in polished light birch, with maroon, straw, and grey patterned upholstery, and the types match each other in appearance. All are fitted with Dunlopillo-filled cushions easily detachable for cleaning. The cushions are held in the seat and back-rest frameworks by a special fastener, and both frames have curved edges which shield the sides of the cushions and prevent excessive wear. Upholstery materials have been selected from the first range of fabrics produced in the new standard L.M.S.R. colours, and the chairs are fitted with small luggage racks beneath the seats. Plain block letters have been used on the coach exteriors.

As regards internal treatment, the side walls have been finished in plywood paneling coloured and patterned with patapasco in the restaurant kitchen car, and with birch in the vestibule car. A cushion-effect leather treatment, blending with the



*Exterior of the remodelled L.M.S.R. first class restaurant car brought into service between London (Euston) and Manchester (London Road) on May 12*





*Table light fitted to the luggage rack in the vestibule car*

colour scheme, has been used on the end walls by complete panelling extending from the seat back rests to the ceiling.

Metal luggage racks, fitted in the vestibule car only, utilise oval tubes and run horizontally the length of each side. Articles automatically slide into a safe position.

A flush-fitting overall carpet giving additional quietness, warmth, and comfort has been adopted for both coaches, and to minimise the effect of extra wear in the centre passage, the centre strip can easily be removed for cleaning. Designed in dark maroon with straw and grey mottling, the carpet material does not readily show up minor stains and marks.

Door handles, curtain fittings, and other general fittings have been re-designed, and all metal finishes have received a special treatment allowing colour with a durable surface to be incorporated.

After considerable research into the problem of carriage lighting, it was found that maximum eye-comfort could best be achieved by the use of ceiling lamps in conjunction with modified table lighting. A table-light fitting was designed with a series of vanes which direct the light downwards, but prevent glare on the eyes of seated passengers. In the vestibule car,

the table lights are fitted to the underside of the luggage rack, and in the kitchen car incorporated in the continuous pelmet which houses the curtain runners. General lighting is provided by newly-designed ceiling lamps.

Heating equipment with the steam heating pipes placed in the body sides, instead of in a projecting skirting, has been adopted, and by fitting the pipes flush with the internal lining of the coaches, an extra 3 in. of floor space has been gained on each side.

Ceiling ventilation has received an entirely new treatment, the whole of the ceiling centre being dropped slightly to provide an air space along the full length of the dropped portion. Used air is extracted through this space by concealed air ducts connected to extractor ventilators on the exterior of the roof. The ceiling of the vestibule car has a pale-pink finish, and the restaurant car, pale blue.

The design of windows for the cars was considered in conjunction with the heating and ventilating schemes, and double-glazing has been adopted for all windows and ventilator-lights in the dining compartments. The consequent reduction in loss of heat from the large area of glass in the cars has eliminated condensation

and reduced the amount of heat needed to warm the coaches. The current of cold air which is reflected from normal windows and ventilator-lights has been avoided, and condensation is prevented by the use of absorbent material in the enclosed air space.

The first class restaurant car (No. 43) here described leaves London (Euston) for Manchester (London Road) daily (including Sundays) at 10.20 a.m. and Manchester for London at 5.30 p.m. The first class vestibule coach (No. 7555) leaves London (Euston) for Birmingham and Wolverhampton daily (Saturdays excepted) at 8.55 a.m. and returns from Wolverhampton at 4.10 p.m. for London.

#### **A Demonstration Run**

On Thursday, May 8, a demonstration run of these cars was arranged by the L.M.S.R., leaving Euston at 10.50 a.m. for Rugby, and arriving back at Euston at 3.30 p.m., the following officials of the company being present:

Vice-Presidents: Messrs. G. L. Darbyshire, T. W. Royle, and R. A. Riddles.

Assistant to Vice-President: Mr. C. Fiske. Chief Commercial Manager's Department: Messrs. C. N. Mansfield (Principal Assistant Chief Commercial Manager), C. Johnstone (Assistant Chief Commercial Manager, Passenger), R. Bagwell (District Passenger Manager, Euston).

Chief Operating Manager's Department: Messrs. S. H. Gould (Assistant to Chief Operating Manager, Passenger Services), P. R. Evans (Assistant to Chief Operating Manager, Passenger Rolling Stock).

Chief Mechanical Engineer's Department: Messrs. H. G. Ivatt (Chief Mechanical Engineer), E. Pugson (Mechanical Engineer, Carriages & Wagons), C. W. Foxley (Works Superintendent, Carriages & Wagons, Derby), F. J. Gilbert (Chief Carriage & Wagon Draughtsman).

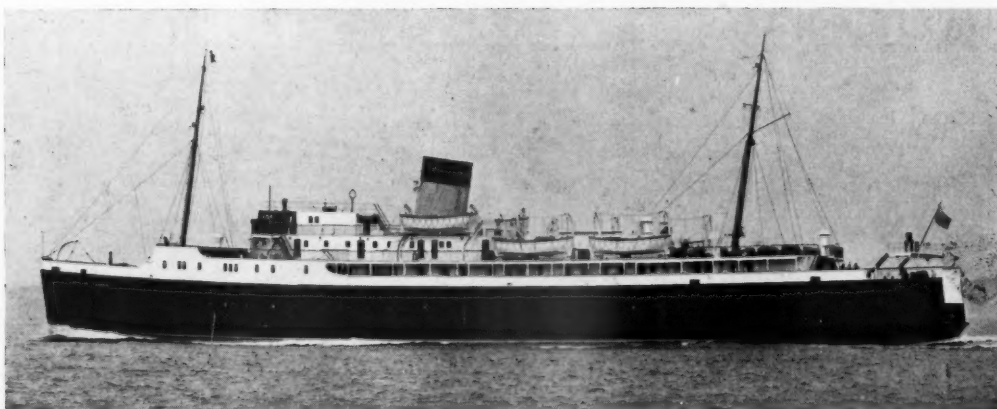
Chief Civil Engineer's Department: Mr. W. H. Hamlyn (Architect) and Dr. J. L. Martin (Principal Assistant Architect).

Hotels Department: Messrs. F. G. Hole (Chief Hotels Superintendent), W. P. Keith (Assistant to Chief Hotels Superintendent, Restaurant Car & Refreshment Room Services), Gordon Yates (Assistant).

Advertising & Publicity Department: Messrs. J. O'Neill (Advertising & Publicity Officer), D. S. M. Barrie (Assistant), F. W. Grocott.

Also present were Major J. M. Dewar (Publicity Officer), G.W.R., and Mr. George Dow (Press Relations Officer), L.N.E.R.

#### **L.M.S.R. mv. "Princess Victoria" for Larne-Stranraer Route**



*This new vessel, views of the interior of which are given on page 508, was built for the L.M.S.R. by William Denny & Bros. Ltd., Dumbarton, and has accommodation for 1,500 passengers and about 40 motorcars. Her service speed is 19 knots*

# L.M.S.R. Experimental Restaurant Cars



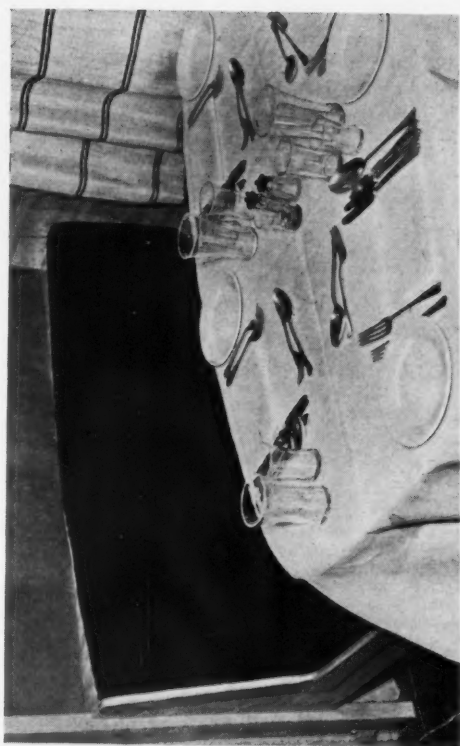
*Ceiling lights, with table lights fitted to the underside of the luggage rack, give maximum eye-comfort*



*A view of the restaurant car which illustrates the freedom of movement obtained by the new furniture layout*



*Movable chairs, with racks underneath for small luggage, are a feature of both remodelled cars*



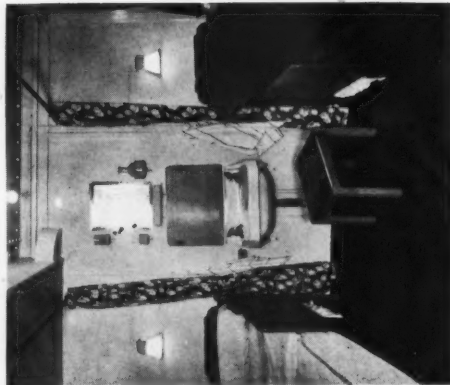
*Showing the new design of curved seat intended for corner tables situated in the vestibule car*

# L.M.S.R. mv. "Princess Victoria" for Larne-Stranraer Route

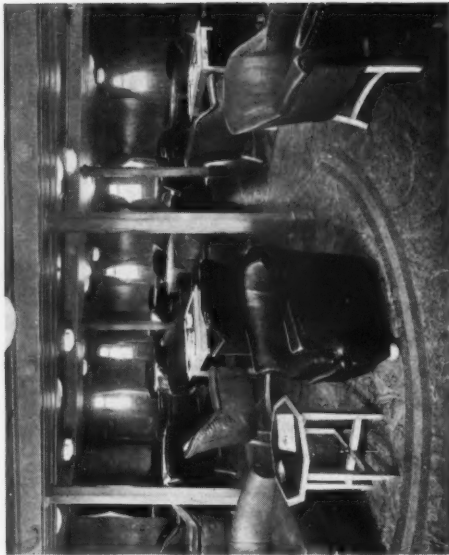
(See also page 506)



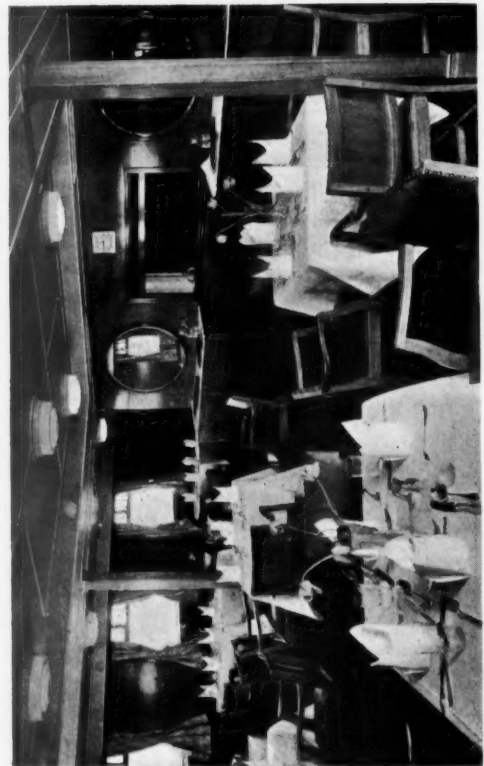
*Ladies' first class lounge*



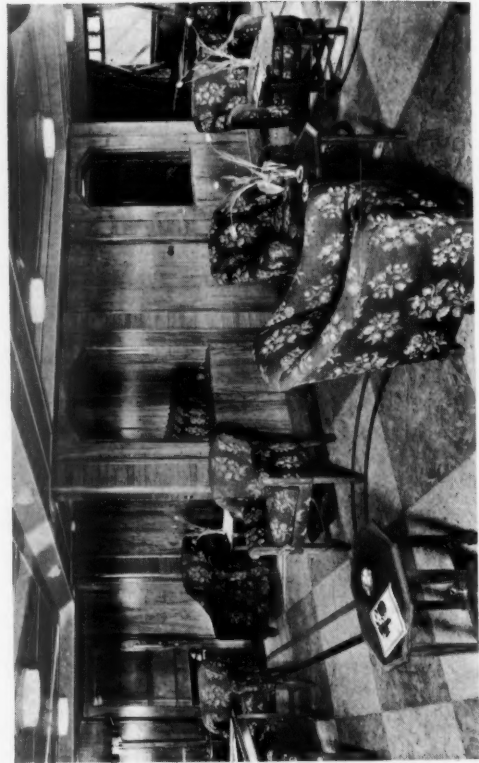
*Stateroom*



*First class smoking room*



*A corner of the third class dining saloon*



*First class lounge on the promenade deck*

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## G.W.R. Developments in Maintenance Equipment—5\*

*Improvements on the maul and sledge hammer*



*Driving a trench runner with the Boardall tool*

THE Drivall, Boardall, and Roadall tools, marketed by Geo. Monro Limited, of Waltham Cross, Herts., perform the work of the ordinary maul or sledge hammer, but with

\* Previous articles in this series appeared in our issues of April 4, April 25, May 2 and May 9

greater safety and precision. The Drivall consists of a hollow cylinder, one end of which is open, while the other encloses the hammer weight; handles are fitted at the sides which permit two, three, or four men to operate the heavier types, although the lighter ones require only one man.

The Drivall is placed over the post which is to be driven into the ground; then raised and brought down smartly on to the top of the post, while the operators retain a tight grip on the handles. This procedure is repeated until the required penetration is produced. Experiments conducted by the Institute of Agriculture have shown that it is unnecessary to point the butt end of the post before driving; indeed, a firmer job is obtained if the end is left square.

The process of erecting a concrete fence post in normal ground takes only a few minutes. A hole has first to be formed, as shown in the illustrations below, by driving a wooden post, which is then levered out using the Liftall and adjustable fulcrum known as the Stepall. A piece of sacking should be placed in the head of the Drivall to protect the concrete post while being driven. The Drivall is made in varying sizes, weighing between 18 and 137 lb.

The two sizes of Roadall illustrated weigh 39½ lb. and 23 lb. respectively; they operate on the same principle as the Drivall, and are used for such purposes as breaking up or making holes in concrete when there is insufficient work to justify power tools.

The Boardall is used for driving trench runners or light sheeting, and is made in three sizes for use with timbers up to 2½ in., 3 in., and 4 in. thick respectively. The illustration does not show the safety shutters, which can be fitted to the side of the tool to prevent its coming off the timber on the downward stroke. A feature of both the Drivall and Boardall is the comparatively little damage sustained by timber under the impact of their blow.



*Driving a timber post with the No. 6 Drivall. Roadall tools are on the right*



*Withdrawing a post by means of the Liftall tool and Stepall adjustable fulcrum*

STEWARTS AND LLOYDS AT CASTLE BROMWICH.—As in pre-war years, the firm of Stewarts and Lloyds Limited, Upper Brook Street, London, W.1, was adequately represented at the British Industries Fair, and on this occasion emphasis was laid on the peacetime needs of industry. The exhibits, housed on four main stands, gave the visitor a clear indication of what this firm has to offer in the immediate task of reconstruction. In the engineering group, were shown all types of steel tubes and fittings for steam, gas, oil, water, etc., various joints and couplings, and a selection of foundry pig irons and iron and steel castings. In the building group, where the firm was represented by a sub-

sidiary, John Russell & Co. Ltd., exhibits included gunmetal valves and fittings for steam, water, and gas, and pipe fittings screwed for iron and copper.

EXPANDED RUBBER COMPANY'S EXHIBITS.—The use of Onazote sandwich construction for the roofs of buses now in production for the L.P.T.B. was demonstrated on the stand of the Expanded Rubber Co. Ltd. at the Earls Court section of the British Industries Fair. Attention was directed, also, to the application of Onazote to the solution of thermal insulation problems connected with the transport of perishable foodstuffs by rail, road, sea and air, and to Rubazote matting as a floor

covering for railway coaches, motorcars, and aircraft saloons, etc.

VENEZUELA RAILWAY NEGOTIATIONS.—The Bolivar Railway Co. Ltd. and the La Guaira & Caracas Railway Co. Ltd. have issued a statement to the effect that the Venezuelan Government recently appointed a commission to study the acquisition of railways. Mr. R. P. W. Adeane, a Director of the La Guaira & Caracas Railway Co. Ltd., and Chairman of the Bolivar Railway Co. Ltd., has arrived in Caracas to carry on negotiations. Stock and shareholders will be advised of any progress made in the negotiations.

## New Millwrights Shop at Acton Works

*Maximum working floor area obtained by providing a gallery for storing replacement parts*

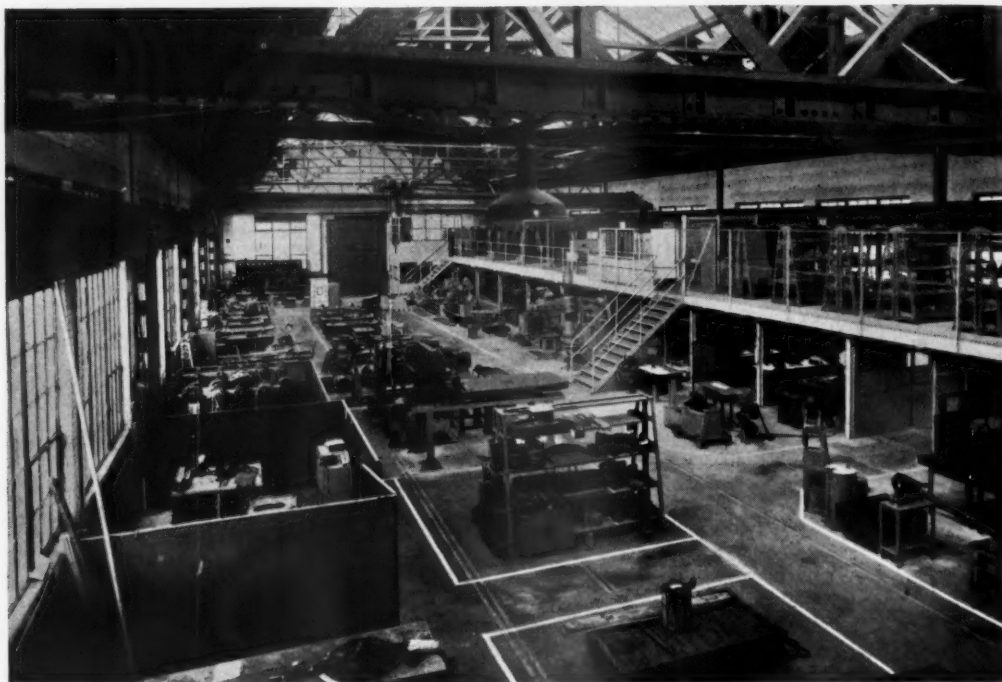
**T**HE millwrights shop at Acton Works, London Transport, which formerly adjoined the wheel area of the main overhaul shops, has been moved recently to a separate building, conveniently situated in relation to the various production and overhaul shops, and having sufficient floor area to provide a modernised layout and fully-equipped millwrights department.

The function of the shop is to maintain the mechanical and electric plant of the works, with similar work in connection with railway depots. The shop, which measures approximately 142 ft. long by 54 ft. wide, is spanned by a 2-ton floor-

controlled electric travelling crane, which is adequate for the majority of the loads to be handled; a 15-ton crane is also available when required. The main body of the shop contains areas devoted respectively to mechanical and electrical fitting; machining; woodwork; pipe-fitting; and sheet metal work. Separate enclosures are provided for electric welding; the storage and maintenance of lifting tackle used by the millwrights section; and the routine inspection and repair of portable electric equipment. A charging bay for electric truck batteries is located at the western corner of the shop, and raised stands are

provided to facilitate the servicing and repair of the trucks themselves.

A special feature of the shop is the gallery which has been provided to house various equipment normally required for use at comparatively infrequent intervals, with the object of leaving the maximum possible floor area available for working purposes. At the further end of the gallery, adjoining the foreman's office, are the clothing racks, lockers, and two washing-troughs, fitted with knee-operated spray heads. A recording clock with card racks is mounted at the inner side of the gallery; opposite the clock and racks there is a canteen cabinet for the preparation of hot tea. The remainder of the gallery is arranged as an enclosure containing storage racks for spare and replacement equipment.



*The new millwrights shop at Acton Works, L.P.T.B.*

**STANTON IRONWORKS TRAINING CENTRE.**—To meet the problem arising from the acute shortage of labour in general and of apprentices in particular, the Stanton Ironworks Co. Ltd. has proceeded a stage further in its educational scheme by the provision of a fully-equipped training centre which will be in operation by the end of next month. The new centre will consist of foundry, engineering, and woodwork sections, each under the supervision of instructors who have had wide experience in their respective branches of industry. The foundry section will comprise a complete foundry unit, with equipment designed to instil into the apprentices the fundamental principles of sound foundry practice, the only mechanical aids being a sand preparation and handling plant. The engineering and woodwork sections will be equipped with all the necessary machine and hand tools, and boys who are to become apprentices in the various trades will receive a comprehensive basic training, while those who are entering employment for which ap-

prenticeship is not involved, will proceed to their future trade after the first month of training, returning to the centre if they wish for handicraft instruction in order to stimulate an interest in the profitable use of leisure. For theoretical training, there will be a cinema and classrooms fitted with filmstrip projectors, epidiascopes, etc., as well as visual aids to instruction.

**AN EXHIBITION OF LISTER FABRICS.**—For the first time since the firm was founded 110 years ago, the employees of Lister & Co. Ltd., makers of Wyndri seating fabrics, have had an opportunity of seeing the whole range of products made by the firm at Manningham Mills, Bradford. The occasion was an exhibition, opened by the Lord Mayor of Bradford on April 28, and remaining open until May 3, which was visited by well over 10,000 people. Each morning, parties of schoolchildren were given a chance of studying the processes employed in the textile industry from the raw material, combing, spinning, etc., to the finished product and woven fabric, and

each afternoon specially invited representatives of trade organisations, suppliers of materials, and officials from Government offices were present. At 7 p.m., the exhibition was opened to employees and their friends, and from then until 9.30 p.m. visitors passed through the hall at the rate of 1,000 an hour. On the Saturday afternoon, employees from the Lister branch works at Addingham, Darlington, and Nuneaton arrived, and after luncheon in the canteen were taken on a tour of the exhibition and works.

**ASSOCIATED EQUIPMENT CO. LTD.**—At a meeting of the board of directors of the Associated Equipment Co. Ltd., held at Southall on May 12, it was resolved that an interim dividend, at the rate of 12d. per £1 unit of stock, free of income tax, be paid to members whose names appeared on the register of members as at May 4, 1947, in proportion to their respective holdings of stock; and that dividend warrants be despatched to members on or about June 16, 1947.

## RAILWAY NEWS SECTION

## PERSONAL

Mr. W. J. K. Skillicorn, C.B.E., who retired on April 30 from the position of General Manager, Rhodesia Railways, has been made a Commander of the Royal Victorian Order.

Mr. C. W. Powell, Divisional Superintendent, Swansea, Great Western Railway, who, as recorded in our May 2 issue, has been appointed to succeed Mr. C. T. Cox, on his retirement, as Divisional Superintendent, Paddington, entered the company's service in 1915 in the Office of the Superintendent of the Line. In January, 1918, Mr. Powell joined H.M. Forces; he served in the Inns of Court O.T.C. and in the

on February 25, and who is now retiring, appeared in our issue of March 14 last.

Mr. J. C. Patteson (European General Manager, Canadian Pacific Railway) has been re-elected President of the Canadian Chamber of Commerce in Great Britain.

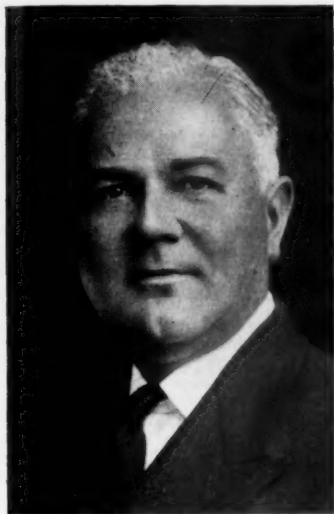
Mr. Walter Barnes, Rating Surveyor to the L.N.E.R., has been elected President of the Rating Surveyors' Association for 1947-48.

Mr. J. F. M. Taylor, Divisional Superintendent, Worcester, Great Western Railway, who, as recorded in our May 2 issue, has been appointed Divisional Superintendent, Swansea, entered the company's ser-

vice in 1924, when he was attached to the General Manager's Office. His services were lent to the Chinese Government in April, 1935, so that he might act as Secretary to a commission, under the chairmanship of Brigadier-General F. D. Hammond, to report on the Chinese railways. In October of the same year he was transferred to the Office of the Superintendent of the Line, G.W.R., as a train runner. In 1937 he acted as Secretary to the Hammond Commission, appointed by the Government to report on transport in Ceylon; and in 1938 he was appointed Junior Assistant to the District Traffic Manager, Plymouth. In September, 1939, Mr. Taylor's services were lent to the Railway Executive Committee, and later he was appointed an Assistant Secretary. He vacated that post in February, 1941, and became Chief Clerk to the Divisional Superintendent, Worcester, where he was appointed, in the next December, Assistant Divisional Superintendent, and, in July, 1942, Divisional Superintendent.

Transport Board. In 1934 he accepted the invitation of the South African Government to serve as Chairman of a commission to inquire into and report on the finances and working of South African harbours, and four years later agreed to be Chairman of a commission to inquire into the working of the Northern Ireland Road Transport Board.

Mr. J. I. Campbell, A.M.Inst.C.E., Assistant Engineer (Construction) (London), L.N.E.R., who, as recorded in our April 25 issue, has been appointed Engineer (London), began his training with the Caledonian Railway in the District Engineer's Office, Perth. Thereafter he became a junior assistant in the District



Mr. C. W. Powell

Appointed Divisional Superintendent, Paddington, G.W.R.



Mr. J. F. M. Taylor

Appointed Divisional Superintendent, Swansea, G.W.R.



Mr. J. I. Campbell

Appointed Engineer (London), L.N.E.R.

R.A.F. until March, 1919, when he returned to the Passenger Train Section of the Office of the Superintendent of the Line. In July of the same year he was transferred to the Divisional Superintendent's Office, Swansea, to gain station and divisional experience, and he remained there until 1923, when he returned to the Rates & Fares Section of the Office of the Superintendent of the Line. From 1925 to 1934, Mr. Powell was attached to the Passenger Train Working Department, and in the latter year became a passenger train runner. From October, 1935, until August, 1936, he acted temporarily as an Assistant to the Divisional Superintendent at Paddington; and in August, 1936, he was appointed Chief Clerk to the Divisional Superintendent at Worcester. In June, 1938, he was transferred to the Bristol Division as Chief Clerk to the Divisional Superintendent; and in April, 1940, he became Assistant Divisional Superintendent at Paddington. Mr. Powell was made Assistant to Superintendent of the Line, Paddington, in April, 1942, and Operating Assistant to Superintendent of the Line in June, 1945. He was appointed Divisional Superintendent, Swansea, in July, 1946.

A portrait and biography of Mr. C. T. Cox, Divisional Superintendent, Paddington, Great Western Railway, who celebrated 50 years service with the company

vice in 1924, when he was attached to the General Manager's Office. His services were lent to the Chinese Government in April, 1935, so that he might act as Secretary to a commission, under the chairmanship of Brigadier-General F. D. Hammond, to report on the Chinese railways. In October of the same year he was transferred to the Office of the Superintendent of the Line, G.W.R., as a train runner. In 1937 he acted as Secretary to the Hammond Commission, appointed by the Government to report on transport in Ceylon; and in 1938 he was appointed Junior Assistant to the District Traffic Manager, Plymouth. In September, 1939, Mr. Taylor's services were lent to the Railway Executive Committee, and later he was appointed an Assistant Secretary. He vacated that post in February, 1941, and became Chief Clerk to the Divisional Superintendent, Worcester, where he was appointed, in the next December, Assistant Divisional Superintendent, and, in July, 1942, Divisional Superintendent.

We regret to record the death on May 8, at the age of 73, of Sir William McLintock, Bt., G.B.E., C.V.O., the eminent accountant, Senior Partner of Thomson McLintock & Company. He was a member of the (Weir) Committee on Railway Electrification, 1930-31; and was financial adviser to the Government in connection with the creation of the London Passenger

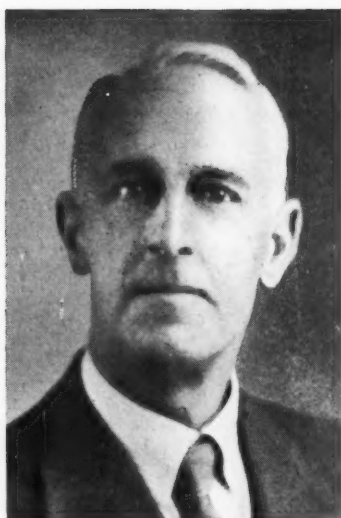
Engineer's Office, Edinburgh. Early in 1914 he entered the Chief Engineer's Office of the North British Railway, as an assistant. During the war of 1914-18 he served with the Army in France, latterly holding a commission in the Royal Engineers. On demobilisation, Mr. Campbell returned to the N.B.R. in the New Works Department, where he remained after the amalgamation and until 1930, when he was appointed Assistant District Engineer, Guide Bridge, L.N.E.R. In 1937 he became District Engineer, Boston, and, in 1938, Assistant to Engineer (General) (London); the latter position was amalgamated in 1943 with that of Assistant to Engineer (Construction) (London), to which he was then appointed. He was re-designated Assistant Engineer (Construction) (London) last year.

## L.N.E.R. STAFF CHANGES

Consequent on the resignation of Mr. J. Ratter, Permanent Way Assistant to Engineer (London), Mr. H. C. Orchard, Chief Assistant (Permanent Way), Engineer's Office, London, has been appointed as Permanent Way Assistant to Engineer (London).

Mr. G. Crabtree, Trains Assistant to Superintendent & Locomotive Running Superintendent, Scottish Area, has been appointed District Superintendent, Edinburgh, in succession to Mr. G. M. Johnston, who is retiring on June 2 next.





**Mr. G. H. Skelton**

Assistant Accountant, L.N.E.R.,  
1942-47



**Mr. J. F. Harrison**

Appointed Acting Assistant Chief Mechanical  
Engineer, L.N.E.R.



**Mr. F. H. Marshall**

Appointed London District Freight  
Superintendent, Southern Railway

Mr. G. H. Skelton, Assistant Accountant, L.N.E.R., who, as recorded in our April 11 issue, has retired, joined the Great Northern Railway in 1898 as a junior clerk at Keighley goods station, and in 1902 was transferred to the Accountant's Department. He saw service with H.M. Forces during the war of 1914-18, and eventually became Chief Book-Keeper of the L.N.E.R. in 1932. He was appointed Assistant to the Chief Accountant in 1936, and Assistant Accountant in 1942. Mr. Skelton possesses an extensive knowledge of railway accounting problems, and during Government control of the railways since 1939 his assistance has been of great value in negotiation and implementation of accounting arrangements made with the Ministry of Transport.

Sir Frederick Bain, President of the Federation of British Industries, is at present in Canada at the invitation of Mr. J. A. MacKinnon, Canadian Minister of Trade & Commerce. Sir Frederick Bain, who is accompanied by Mr. Moir Mackenzie, Deputy Director-General of the F.B.I., will take part in discussions in Ottawa with Mr. MacKinnon and other Ministers, and with representatives of Canadian industry.

#### INDIAN RAILWAY STAFF CHANGES

Mr. T. H. Morris, Controller of Stores, B.N.R., has been appointed to officiate as General Manager, while Mr. S. J. P. Cambridge is officiating as Chief Commissioner of Railways.

Mr. O. R. Tucker has been appointed to officiate as Chief Operating Superintendent, E.I.R., as from November 3 last.

Lt.-Colonel J. E. Clutterbuck, R.E., has been confirmed provisionally as Chief Engineer, G.I.P.R.

Mr. W. Jolly, Financial Adviser & Chief Accounts Officer, M.S.M.R., has been granted two years' leave preparatory to retirement as from November 18 last. Khan Bahadur J. D. Bhote has been appointed to officiate as Financial Adviser & Chief Accounts Officer.

Mr. H. B. Adams, Chief Electrical Engineer, N.W.R., proceeded on 19 months leave preparatory to retirement on January 25.

Mr. W. T. Biscoe, Chief Operating Superintendent, N.W.R., proceeded on two

years' leave preparatory to retirement on January 7.

Mr. E. M. Carvey, Officiating Controller of Stores, O.T.R., has been granted leave preparatory to retirement as from October 15 last. Mr. Prem Nath has been appointed to succeed him.

Mr. J. F. Harrison, M.I.Loco.E., Mechanical Engineer, Scotland, L.N.E.R., who, as recorded in our March 21 issue, has been appointed Acting Assistant Chief Mechanical Engineer, was educated at Malvern Wells and Wellington College, and became a pupil of the late Sir Nigel Greley at the Great Northern Railway workshops at Doncaster. Mr. Harrison was appointed Supernumerary Foreman in the Locomotive Running Department at Doncaster and afterwards at Kings Cross during the years 1924-25. He became Running Shed Foreman in charge of Wigan and St. Helens in 1926; Technical Assistant to the Locomotive Running Superintendent, Liverpool Street, in 1929; Assistant to the Locomotive Works Manager, C.M.E. Department, Gorton, in 1930; Assistant Locomotive Works Manager, Doncaster, in 1937; Locomotive Works Manager, Gorton, in 1938; and Mechanical Engineer, Gorton, in 1941. He was appointed Mechanical Engineer, Scotland, in 1945.

Mr. Ralph Assheton has been appointed a Director of Borax Consolidated Limited. He is a Director of the London & North Eastern Railway Company.

Mr. T. C. Copland, M.I.N.A., M.I.Mar.E., Marine Engineer, Chief Marine Superintendent's Department, Gourock, L.M.S.R., who, as recorded in our March 14 issue, has been appointed Superintendent Marine Engineer of the company, served his apprenticeship in the locomotive repair shops and Marine Department workshops of the L.N.W.R. at Holyhead. After sea-going experience with Alfred Holt & Company, and having obtained his Board of Trade extra first engineer's certificate, he returned to railway service with the L.M.S.R. in 1932 as draughtsman in the Marine Department at Heysham. He was appointed Marine Engineer, Gourock, in 1936.

Mr. F. H. Marshall, M.B.E., Assistant London District Freight Superintendent, Southern Railway, who, as recorded in our April 11 issue, has been appointed London District Freight Superintendent, served with the London & North Western Railway before joining the South Eastern & Chatham Railway in 1910. After holding the position of Chief Clerk to the London District Goods Superintendent, he went to Bricklayers Arms as Goods Agent in 1917. Mr. Marshall became Goods Agent, Nine Elms, in 1929, and Assistant London District Freight Superintendent in 1942. He was made an M.B.E. in the King's Birthday Honours, 1944.

The Minister of Supply has appointed Sir Charles McLaren as the official Chairman of the Gauge & Tool Advisory Council in succession to Mr. S. F. Steward, who has resigned to devote full time to his business interests.

The following notification appears in the Supplement to *The London Gazette*, dated May 6, under the heading of Regular Army Reserve of Officers: Corps of Royal Engineers:—Major F. A. Pope (144352), having exceeded the age limit of liability to recall, relinquishes his commission, May 7, 1947, and retains the rank of Major. Major Pope is a Vice-President of the L.M.S.R.

#### L.M.S.R. STAFF CHANGES

Mr. J. Ellwood, Stationmaster, Barrow-in-Furness, to be Stationmaster, Watford Junction, also in charge of Watford North.

Mr. D. Goodfellow, Stationmaster, Ord-sall Lane, to be Stationmaster, Barrow-in-Furness.

Mr. F. W. Leach, Stationmaster, Dalston Junction, to be Stationmaster, Broad Street.

Mr. D. Western, Senior Clerk, Excursion & Ticket Refunds Section, District Passenger Manager's Office, London, to be Chief Railway Service Representative, District Passenger Manager's Office, London.

Mr. S. A. Saunders, Chief Permanent Way Inspector, Leeds, to be Chief Permanent Way Inspector, Crewe.

Mr. J. Finch, Stationmaster & Goods Agent, Hednesford, to be Yardmaster, Bletchley.

## LUNCHEON TO MR. E. HUSKISSON

More than 100 representatives of the travel industry attended a luncheon on May 7 at the Savoy Hotel, London, in honour of Mr. Edward Huskisson, who on May 15 retired from the position of General Manager of Thos. Cook & Son Ltd., remaining a Director. Tribute was paid to Mr. Huskisson's great capabilities and human qualities, tireless devotion to duty and cheerful readiness at all times to lend a helping hand to his co-workers of every grade. Mr. John Brancker (B.O.A.C.) voiced the feelings of the air-transport industry, Mr. Ben Russell

(Cunard Line) spoke on behalf of shipping interests, and Mr. Keith Grand (Great Western Railway) expressed the sentiments of the railway companies. The Chairman, Mr. H. Shirley James, read a number of telegrams from absent friends; and in a cable Mr. Ralph E. Reid, President of the American Express Company, said:—"We feel that the tourist industry the world over recognises in you the honoured representative of a great company that pioneered the sphere of travel." Mr. James Maxwell, who succeeds Mr. Huskisson, endorsed the many compliments paid, and added his own appreciation of the unique gifts of his pre-

decessor. Replying to the toast of his health, Mr. Huskisson recalled his early days in Cook's office in Ludgate Circus—then the firm's head office, with 300 employees; to-day the Berkeley Street office had a staff of 1,900. He foresaw strenuous days ahead for the travel industry. The Chairman also presented Mr. Huskisson with a cinema-camera.

We regret to record the death on April 24, at the age of 70, of Mr. Jason Edwards, who was Chief Accountant, Buenos Ayres Western Railway, from 1922 until his retirement in 1936.

## British Railway Shareholdings in Road Transport

FROM the annual reports of the four main-line railways for the year ended December 31, 1946, it appears that the sums invested in associated bus undertakings are:—

L.M.S.R.	...	...	...	2,848,188
L.N.E.R.	...	...	...	2,350,604
G.W.R.	...	...	...	2,300,133
S.R.	...	...	...	2,038,984
Total				9,537,909

In the first three cases, these amounts may not agree with the totals of the holdings shown in the accompanying table, but

they are the amounts of the subscriptions. Goods transport by road is not susceptible of such easy definition, for the railways use many of their own parcels and goods motor vehicles (including mechanical horses), and also have large investments in some important firms of goods hauliers.

The four main-line companies have invested £3,183,564 in Hay's Wharf Cartage Co. Ltd. (of which Pickfords Limited is a subsidiary). Up to 1943, the railways had £1,342,996 invested in Carter Paterson & Co. Ltd. As a result of the Pickfords and Carter Paterson merger for operational

purposes, which was announced in July, 1943, Carter Paterson became a subsidiary of Hay's Wharf Cartage, and the amount now invested in Hay's Wharf Cartage represents the sum of the investments previously held in this company and in Carter Paterson. The L.N.E.R. holds £84,808 in Currie & Co. (Newcastle) Ltd., and £17,000 in J. W. Petrie Limited; and the L.M.S.R. £142,939 in Wordie & Co. Ltd., and £135,049 in Joseph Nall & Co. Ltd. Some £4,986,479 is accounted for by railway-owned parcels and goods road vehicles, and £2,800,722 by garages and stables; these figures, added to those of investments in goods hauliers, made a grand total of £11,350,561.

## RAILWAY SHAREHOLDINGS IN PASSENGER ROAD TRANSPORT AT DECEMBER 31, 1946, SHOWING EARNINGS FOR THE PAST YEAR

Associated company	Issued share capital	L.M.S.R.		L.N.E.R.		G.W.R.		S.R.	
		Holding	Earnings†	Holding	Earnings‡	Holding	Earnings‡	Holding	Earnings‡
Aldershot & District Traction Co. Ltd. ...	250,000 Ord. ...	£	£	£	£	£	£	£	£
W. Alexander & Sons Ltd.* ...	825,000 Ord. ...	112,500	68,750	112,500	68,750	—	—	82,721	12,408
Birmingham & Midland Motor Omnibus Co. Ltd. ...	250,000 6% Par. Pref. ...	125,000	—	125,000	—	—	—	—	—
City of Oxford Motor Services Limited ...	1,440,000 Ord. ...	432,000	304,200§	—	—	288,000	202,800§	—	—
Crosville Motor Services Limited ...	100,000 8% Cum. Pref. ...	—	—	—	—	—	—	—	—
Cumberland Motor Services Limited ...	74,000 6% Cum. Pref. ...	—	—	—	—	113,000	16,436	—	—
Devon General Omnibus & Touring Co. Ltd. ...	1,100,000 Ord. ...	412,071	32,966	—	—	137,357	10,989	—	—
Eastern Counties Omnibus Co. Ltd. ...	150,000 Ord. ...	49,999	10,909	—	—	—	—	—	—
Eastern National Omnibus Co. Ltd. ...	200,000 Ord. ...	—	—	—	—	40,917	6,137	27,279	4,092
East Kent Road Car Co. Ltd. ...	756,000 7% Cum. Pref. ...	25,288	2,758	184,106	20,084	—	—	—	—
East Midland Motor Services Limited ...	200,000 5% Cum. Pref. ...	—	—	—	—	—	—	—	—
East Yorkshire Motor Services Limited ...	900,000 Ord. ...	225,000	26,591	225,000	26,591	—	—	151,355	22,703
Hants & Dorset Motor Services Limited ...	450,000 Ord. ...	—	—	—	—	—	—	—	—
Hebble Motor Services Limited ...	200,000 6% Cum. Pref. ...	—	—	—	—	—	—	—	—
Highland Transport Co. Ltd.† ...	250,000 Ord. ...	41,667	6,818	83,333	13,636	—	—	—	—
Lincolnshire Road Car Co. Ltd. ...	300,000 Ord. ...	—	—	149,362	27,157	—	—	—	—
Maldstone & District Motor Services Limited ...	550,000 Ord. ...	—	—	—	—	—	—	213,556	36,887
Northern General Transport Co. Ltd. ...	150,000 6% Cum. Pref. ...	—	—	—	—	—	—	—	—
North Western Road Car Co. Ltd. ...	120,000 Ord. ...	45,000	6,750	15,000	2,250	—	—	—	—
Ribble Motor Services Limited ...	35,000 Ord. ...	14,875	2,188	—	—	—	—	—	—
Scottish Motor Traction Co. Ltd. ...	200,000 Ord. ...	19,985	1,999	79,931	7,993	—	—	263,492	39,524
Southdown Motor Services Limited ...	750,000 Ord. ...	—	—	—	—	—	—	—	—
Southern National Omnibus Co. Ltd. ...	200,000 6% Cum. Pref. ...	—	—	—	—	—	—	—	—
Southern Vectis Omnibus Co. Ltd. ...	831,081 Ord. ...	—	—	366,610	36,661	—	—	—	—
Thames Valley Traction Co. Ltd. ...	300,000 6% Cum. Pref. ...	—	—	—	—	—	—	—	—
Trent Motor Traction Co. Ltd. ...	750,000 Ord. ...	248,888	40,727	124,444	20,364	—	—	—	—
United Automobile Service Limited ...	1,200,000 Ord. ...	530,445	79,567	—	—	—	—	—	—
Western National Omnibus Co. Ltd. ...	200,000 6% Cum. Pref. ...	—	—	—	—	—	—	—	—
West Yorkshire Road Car Co. Ltd. ...	1,005,979 Ord. Stock ...	251,494	228,631	251,495	228,631	—	—	—	—
Wilts & Dorset Motor Services Limited ...	1,000,000 6% Cum. Pref. ...	—	—	—	—	—	—	—	—
Yorkshire Woollen District Transport Co. Ltd. ...	750,000 Ord. ...	—	—	—	—	—	—	242,792	36,419
	542,200 Ord. ...	—	—	—	—	—	—	271,100	Nil
	115,000 Ord. ...	—	—	—	—	—	—	57,500	8,364
	15,200 6% Cum. Pref. ...	—	—	—	—	—	—	15,000	900
	250,000 Ord. ...	—	—	—	—	85,191	13,941	36,510	5,974
	540,288 Ord. ...	150,293	22,544	75,147	11,272	—	—	—	—
	1,627,233 Ord. ...	—	—	798,412	184,231	—	—	—	—
	150,000 7% Cum. Pref. ...	—	—	39,622	—	—	—	—	—
	2,000,000 Ord. ...	—	—	—	—	1,000,000	114,909	—	—
	400,000 6% Cum. Pref. ...	—	—	—	—	400,000	—	—	—
	507,500 Ord. ...	—	—	—	—	253,750	29,989	—	—
	787,500 Ord. ...	195,843	39,169	195,843	39,169	—	—	—	—
	200,000 6% Cum. Pref. ...	—	—	—	—	—	—	—	—
	120,000 Ord. ...	—	—	—	—	—	—	30,724	5,865
	437,500 Ord. ...	107,289	21,784	107,289	21,784	—	—	—	—
	24,350 7% Non. Cum. Pref. ...	4,662	—	4,661	—	—	—	—	—
Total ...	528,000 Ord. ...	176,000	25,600	88,000	12,800	—	—	—	—
		3,168,299	921,951	3,025,755	721,373	2,318,215	395,201	1,392,029	173,136

\* W. Alexander & Sons Ltd. ordinary shares at 15s  
† Profits distributed as dividends in 1946

† Highland Transport Co. Ltd. shares at 17s. The L.M.S.R. holds 17,500 ordinary shares  
§ Includes special distribution on winding up of subsidiary companies

## Ministry of Transport Accident Report

Catford, Southern Railway: September 20, 1946

**L**T-COLONEL E. Woodhouse inquired into the accident which occurred at 2.25 p.m. on September 20, 1946, at Catford, Southern Railway, when the 2.10 p.m. train from Victoria to Ramsgate, via the Catford Loop, composed of 9 bogie coaches, drawn by 4-4-0 engine No. 917, left the rails. The second and third coaches fell down the 20-ft. embankment into the Catford Stadium car park, and the first and fourth came to rest on their sides, each with one end on the embankment and the other in the car park; the body of the leading coach was pierced by a rail torn up by the engine.

Of the 432 seats, 377 were occupied. A passenger in the leading coach was killed, and 16 others received injuries requiring hospital treatment, but 15 of them were able to leave there the same day. Ambulances and medical attention were quickly available. The down track was completely destroyed for about 130 yd., and normal services were not resumed until the following evening. Traction current on both tracks was short-circuited without serious consequences. The weather was fine, but there had been heavy rainfall earlier in the day and for some days beforehand.

The diagram on page 515, taken from the report, gives the essential details of the circumstances of the accident. As shown thereon, the first mark of the derailment was at 7 m. 63 ch. 4 yd., on a short level stretch near the end of a right-hand curve, half a mile long, 28 ch. radius at that point. There is no permanent speed restriction there, but one of 40 m.p.h. commences just beyond Catford Station. The down track is laid with 95-lb. 60-ft. rails, 25 sleepers per rail, with 4-bolt fish-plates. It was re-sleepered with new sleepers and through-bolt chairs, and re-ballasted in 1942. The rails were not far worn, though there was some side-cutting on the outer rail of the curve. Bridges 467 and 468 have the rails carried on longitudinal sleepers, directly supported by the bridge floors, without ballast.

The leading four coaches were less severely damaged than might have been expected, rolling down the embankment relatively slowly, but there was serious crushing and destruction of bodywork at the leading end of the second coach (a brake compartment, fortunately unoccupied), at the rear end of the same coach, at the leading end of the third, and, to a lesser degree, to the adjacent ends of the third and fourth coaches.

### MARKS OF DERAILMENT AND DAMAGE TO TRACK

The first mark of derailment showed that a pair of wheels had become derailed there towards the inside of the curve; the flange mark on the right-hand rail was about 12 ft. long. Thereafter, many of the sleepers were heavily flange-marked by a single pair of wheels at distances varying between 9 and 12 in. from the gauge line for a distance of about 100 yd. As a rule the marks were just clear of the chairs, but some chairs and fastenings were broken and bruised.

About 100 yd. beyond the first mark, a second wheel had crossed the right-hand rail, leaving a light mark about 36 ft. long on it. Beyond the end of this mark some of the sleepers bore twin flange marks, 2 or 3 in. apart, as far as the next rail joint, some 30 ft. ahead. This joint, below the seventh coach of the train, had broken in both rails, and beyond it the

track was entirely destroyed for about 130 yd., up to the point where the engine came to a stand; some of the running and conductor rails, badly bent and twisted, were dragged down the embankment.

An unusual feature of the accident was that the left-hand running rail, though continuous and properly linked up beneath the engine, had risen above the rear axle of the tender and, after piercing the vacuum reservoir and a  $\frac{1}{2}$ -in. plate forming part of the tender framing, had also penetrated the  $\frac{1}{2}$ -in. rear buffer beam of the tender. About 210 ft. of rail, or  $3\frac{1}{2}$  rail lengths, with the fishplates attached, had threaded itself through the tender buffer beam in this manner, also breaking the cast-steel threshold plate of the gangway of the leading coach, and piercing the body

void-meter readings under both rails at the same points, when traffic was resumed, but there was no substantial alteration of cant due to subsidence of either rail when loaded; the greatest alteration (increase or decrease) on the length concerned was one-eighth of an inch.

### CONDITION OF ENGINE

The engine had run 48,000 miles since last general repairs. Normally, engines of this class are so overhauled at 80,000 miles, though under present conditions this mileage often is increased to as much as 120,000. The axle loadings of the engine and tender, after the accident, showed no abnormal inequality between the right and left sides. Breakage of a lower leaf of the spring of the right leading coupled wheel had led to transfer of some weight from this axle to the remaining three, the bogie thus carrying about 2 tons more than the designed amount. This breakage, about 4 in.



After the accident at Catford, Southern Railway

of this coach for half its length, then emerging from its right side. As the coach body swung round in falling down the embankment, the rail transfixing it was bent round also, about 30 ft. of it projecting beyond the trailing end of the body at car park level.

Although the track of the down line approaching the first mark of derailment appeared to the eye to be in good order, with no obvious irregularity of curvature or cant, measurements taken shortly after the accident showed that these existed. The result of these measurements is shown by the diagram. From the beginning of the nominally 28-ch. curve onwards, the radius at half-chain intervals varied between 47 and 22 ch. Similarly, the cant—laid down as 3 in. for a speed of 40 m.p.h. on a curve of this radius—varied between 3 in. and  $1\frac{1}{2}$  in.; these irregularities, of both radius and cant, are particularly noticeable over the 5-ch. stretch leading up to the point of first derailment.

These readings, obtained with the track unoccupied, were supplemented by taking

from the end of the leaf, may well have been a result of the derailment. The break was a fresh one and the detached portion of leaf still in place. All wheel flanges were in good condition, not far worn, and there was no excessive increase in the designed end play of the axles.

There was no indication of undue friction between the bogie and its pivot. The side control springs were in good order and properly adjusted. Two stops are provided near the rear of the bogie, to limit its angular displacement; these project downwards from the main frames, a short distance behind the rear bogie axle, with  $1\frac{1}{2}$  in. between the stop face and inside of the bogie frame in its central position. The left-hand stop was found bent upwards and the corresponding point of the bogie frame heavily scored, showing that during the derailment the bogie had overridden the stop, turning counter-clockwise relative to the engine.

The driver, who knew the line well, said the engine appeared to be running quite normally from Faversham in the morning, and also on the return trip until the de-



railment. He found nothing amiss with it at Victoria. He was under the impression that there was a 40-m.p.h. restriction approaching Catford, and thought his speed was about that figure. He was unaware of the derailment until there was "a horrible roll to the left, followed by a roll to the right." Applying the brake fully, he was thrown against the firebox shortly before the engine stopped. The guard also thought the speed was about 40 m.p.h. He had noticed no lurching or undue oscillation there earlier in the week. The derailment caused four violent jolts at the rear of the train, which threw him off his seat.

The motorman of the preceding train—1.51 p.m. electric, Holborn to Sevenoaks—who also knew the route well, had never noticed unsteady running on this stretch. He felt no unusual motion or lurching, travelling at 20-25 m.p.h. The driver of the last steam train, drawn by a lighter type of 4-4-0 engine and travelling at 25-30 m.p.h., noticed no unsteadiness and had never felt any there; normally his speed would be 35-40 m.p.h.

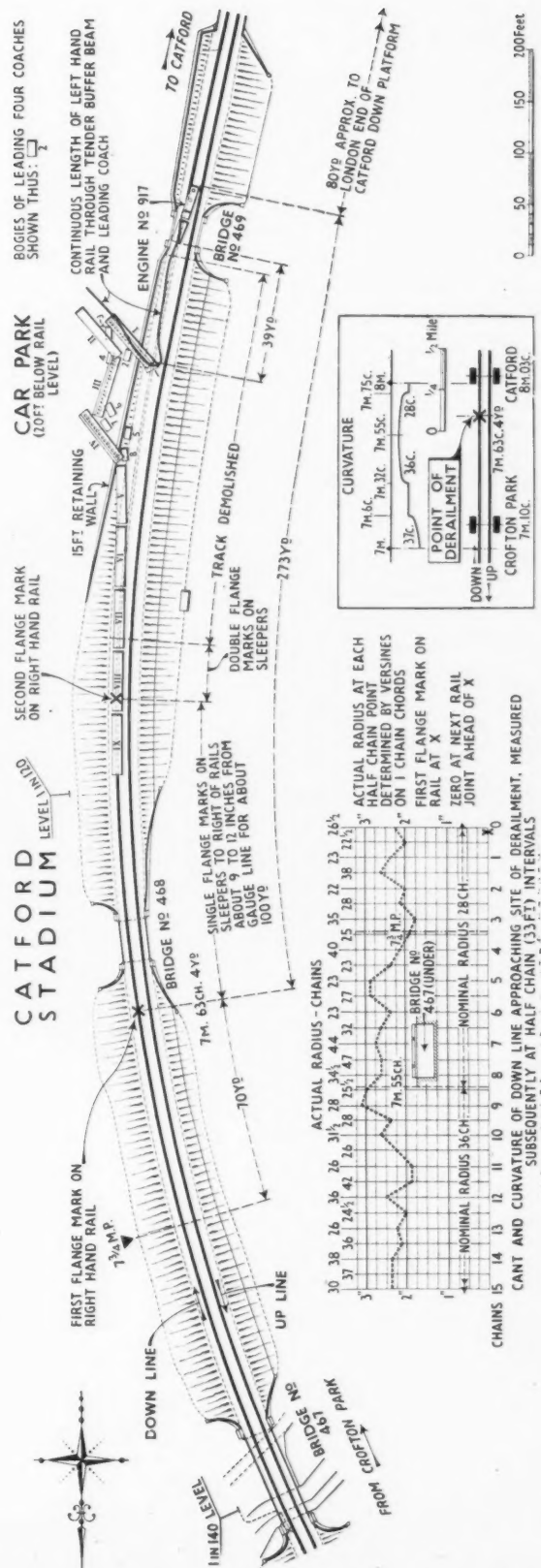
The stationmaster was with the signalman in the Catford Bridge Station box, on the parallel Lewisham to Elmers End line, about 100 yd. distant. Their attention was drawn to the train by an unusual rumble, followed by a flash, when they saw the coaches coming down the embankment. After summoning assistance, he experienced some delay in telephoning to the substation as the line had been destroyed, so he and a porter went to warn passengers to keep away from the conductor rails. Delay in getting current cut off did not hinder rescue work.

The ganger, two months in charge of the section, said maintenance had not given any particular trouble, even during the heavy rain of August and September, though the inspector had told him that the piece of line was sensitive to heavy rainfall. He had not had to lift or re-align it since taking charge. Neither on the previous day, nor five hours before the derailment, had he noticed anything calling for attention. He checked the cant monthly and had done so about a fortnight earlier.

There are no track monuments, but cant is fixed at bridges 467 and 468, by their open floor construction, being 3 in. at the former and  $2\frac{1}{2}$  in. at the latter. The ganger regarded these as datum points for the intervening stretch of line. He found that cant did not vary by more than  $\frac{1}{4}$  in. (plus or minus), while gauge and alignment he thought satisfactory. After the accident the track appeared to be in good condition; on a routine inspection he would not have felt any special attention to be needed.

The ganger previously in charge did not look on the length as difficult to keep in order, even in wet weather. Lifting every two months was sufficient to keep cant correct, when the high rail usually needed lifting  $\frac{1}{8}$  to  $\frac{1}{4}$  in. He did not regard absence of track monuments as a handicap when there were fixed points to work from, such as bridges 467 and 468.

The Permanent Way Inspector at Catford said the line on the London side of the station sometimes gave trouble in wet weather and thought its greater liability to subsidence was due to the composition of the embankment. He visited it frequently, therefore, and did so three days before the accident, when he measured the cant and found it nowhere deficient by more than  $\frac{1}{4}$  in. Alignment appeared good. Very heavy rain not far away about two hours before made him decide to go to the site, and he heard of the accident on his way. Taking cant measure-



*Diagram showing the principal circumstances of the accident at Catford, Southern Railway*

ments with the Divisional Engineer, he found conditions to have deteriorated to an extent not previously experienced by him, although the track appeared suitable for 40 m.p.h. With regard to the irregularity of curve revealed by subsequent measurements, he was prepared always to check by taking versines if asked by the ganger, but had had no recent request.

The Chief Permanent Way Inspector, London East, found nothing amiss a month before the accident, and did not look on this as an unusually awkward stretch, although the "hard spots" formed by the unballasted bridges might make maintenance of uniform cant on the more yielding embankment between them a little difficult. After the accident he saw no signs of settlement causing the cant to become irregular, and alignment appeared satisfactory. He and other witnesses mentioned the extra work caused by wet weather, more time than usual being spent on weeding and grass cutting. Labour shortage was perhaps 15 to 20 per cent., and prevented extra gangs being kept up to strength to make good local deficiencies. Longer holidays aggravated the situation.

The Divisional Engineer, London East, made cant measurements with the Inspector, which were substantially the same as those on the diagram, taken with greater precision not long afterwards. He agreed that, although measurement showed curvature and cant to be decidedly irregular, the line appeared satisfactory to the eye as each set of irregularities tended to mask the other. He therefore demonstrated to a number of gangers (all of whom judged the track to be in good order) the danger of relying too much on visual observation alone, and the need to supplement it by measurements.

The work of providing monuments had been interrupted by the war and not resumed, pending survey and re-alignment of curves, which it is hoped to carry out before long.

#### INSPECTING OFFICER'S CONCLUSION

Lt.-Colonel Woodhouse concluded, from the marks on the track and the forcing of the engine bogie past its stop, that the leading bogie wheels were derailed first, to the right, the trailing wheels leaving the rails 100 yd. further on. It was impossible to say whether the track destruction beginning at the rail joints next beyond was caused by the engine, although that seemed likely. The severe rolling felt by the enginemen corresponded roughly with its beginning. It was clear that a rail joint broke under the engine about 70 yd. short of where it came to rest, as shown by the penetration of the tender buffer beam and leading coach by the continuous length of rail—a most unusual occurrence.

The screw couplings seem to have kept the leading coaches in line over the demolished track, until the drawhook of the first coach broke, after which its trailing end was swung round, down the embankment, by the momentum of those behind, which followed. By that time speed had been reduced substantially; in consequence the coach bodies overturned and slid down comparatively slowly, which accounts for the absence of severe injuries among passengers.

Reports on the condition of the engine, confirmed by Lt.-Colonel Woodhouse's examination, revealed nothing to account for the derailment, and as there was no suggestion of excessive speed, he considered it must be ascribed to faulty condition of the track near the  $7\frac{1}{2}$  milepost. Cant there was decidedly uneven, a reduction of an inch in 132 ft. being followed

first by an increase of nearly an inch in 99 ft., and then by a reduction of over half an inch in 66 ft., ending approximately at the first derailment mark. Over the same stretch, too, the curvature varied rapidly, upwards and downwards, between 23 ch. and 40 ch. radius. These irregularities on a resilient foundation, immediately following the "hard spot" formed by bridge 467, on which there is also a pronounced flat place in the curve, must have set up oscillation and rolling sufficient to cause the right leading bogie wheel to mount.

There was nothing to show this unevenness to be due to sudden subsidence or settlement, but the persistent wet weather may have caused gradual deterioration, perhaps extending over a period of several days, if not longer. That this was not detected in time for steps to be taken either to rectify it, or to impose a temporary speed restriction, reflects upon the permanent way inspector and ganger, neither of whom seems to have appreciated what was happening. This may

have been due to the fact that the line appeared to the eye to be in proper condition, as is shown by the evidence of the Chief Permanent Way Inspector and Divisional Engineer.

It is not unlikely that this incorrect assumption may have led to lack of thoroughness in checking the cant, and Lt.-Colonel Woodhouse feels that when the inspector saw the track three days before, it was in a worse state than he thought. Closer supervision of the ganger's work, in view of the wet weather and short time he had been in charge, would have been more prudent.

#### RECOMMENDATION

To some extent the absence of track monuments may be regarded as a contributory cause of the accident, as tending to conceal the irregularities of alignment which, if corrected, might have made the irregular cant more obvious. It is therefore desirable that the survey and curve realignment should be resumed as soon as conditions permit.

## The Vulcan Foundry Limited

The annual general meeting of the Vulcan Foundry Limited was held in London on May 8.

Mr. F. S. Whalley, M.C., Chairman of the company, presided, and in the course of his speech said:—

At the annual general meeting last year, Mr. Walter Woodbine Parish told you of his intention during the course of the year to pass the Chairmanship over to me. It is in these circumstances that I now have the privilege of addressing you for the first time as Chairman of this old-established company that has such a wealth of tradition behind it, but has, nevertheless, shown its virility in readiness and efficiency to take advantage of the present-day demand for its products, while being fully alive to the manufacturing difficulties and uncertainties that may lie ahead.

#### VALUE OF VISITS ABROAD

At this stage I should apologise for the absence of Mr. de Quetteville, who is in Argentina, whence transport delays have prevented his arrival back in time for the meeting. We anticipate that a first-hand report from him of existing conditions and feeling in that country will be most useful in view of the pending transfer of the British-owned railways, which in the past have been among our most valuable customers, to the Argentine State.

We have also benefited from visits by Brigadier Storar to Africa and America, which have provided us with valuable reports, and have prompted us to send one of our technical officers from the works, Mr. F. Turner, to the United States, where he has recently arrived. We confidently expect that his observation of developments in that country will prove the value of periodical visits.

There are commitments for capital expenditure in progress estimated at £52,000. The expenditure of a large proportion of the figure shown has already been incurred. These commitments indicate that the board appreciates fully the necessity of continuing provision of new machinery to ensure the greatest output with the manpower available, and the rearrangement of certain shops, where necessary, to promote efficient operation under modern conditions. This is by no means the full extent of the expenditure that will ultimately be necessary.

During the year under review, the company's works have been well employed. In March, deliveries commenced of the "Liberation" type of locomotives for U.N.R.R.A. There were 120 of these, and the fact that we were allowed considerable freedom in the initial design enabled us to produce a locomotive that was suitable for its job, and was susceptible of easy manufacture in the shops; it has received general commendation from the critics, and was produced at a price that might well be considered modest by the purchaser. The "Liberation" locomotive may fairly be regarded as one of the firm's outstanding products, and we fully believe that it has carried to the Continent the high reputation of British design and workmanship.

The company's order book should ensure employment for a considerable period ahead. The forward order book includes steam locomotives for the London & North Eastern Railway, which are now being turned out; to be followed by steam locomotives for Burma, Nigeria, Turkey, the Argentine, India, Gold Coast, and again India. There are also orders for spare boilers for several railways in India, for the Gold Coast, Rhodesia, South Africa, and the Argentine. We are also engaged on the mechanical parts for a number of diesel locomotives of 150 h.p. and 200 h.p. with mechanical drive; and on the design and manufacture of mechanical parts for 1,600 h.p. diesel-electric locomotives for Egypt; and mechanical parts for electric locomotives for Brazil.

#### CONVERTING EXISTING BUILDINGS

In view of the reference just made to work for internal-combustion and electric locomotives, it may interest you to hear that we are at the moment in the process of converting existing buildings, formerly used on war work, and equipping them with heavy cranes to deal exclusively with the erection of such locomotives. We shall thus be well placed to deal with additional requirements for these forms of traction which may be expected in the future.

The stoppage of work resulting from the fuel crisis has set back our works programme, but, apart from this, it was clear for some time before the coal and power

crisis broke on us that supplies from our various material suppliers throughout the country were out of balance so far as our requirements were concerned, and it is almost inevitable that the cumulative effect of dislocation in industry will have its repercussion on the company's deliveries and output in the months ahead.

Notwithstanding the satisfactory appearance of a long order book, it cannot be disguised that it carries with it some embarrassment when so much uncertainty exists as to the conditions which may prevail when the time of actual manufacture approaches. This and other considerations which I have endeavoured to set before you will have made clear the reason which has actuated your directors in transferring a substantial sum to general reserve. At the same time they are glad that stockholders, in addition to receiving a dividend of 5 per cent., should, on this occasion, be able to participate in a bonus of 1½ per cent.

The report and accounts were adopted.

### Birmingham Railway Carriage & Wagon Co. Ltd.

The annual general meeting of the Birmingham Railway Carriage & Wagon Co. Ltd. was held on May 6 at Birmingham. Sir Bernard D. F. Docker, K.B.E., J.P., Chairman of the company, presided. The following extracts are taken from the Chairman's statement circulated with the report and accounts:—

Our main problems this year have been the termination of our wartime contracts, the extensive reorganisation of the workshops of our normal business, the scarcity of materials for production, and an unauthorised strike of our workpeople in mid-summer. In the same way that private enterprise has overcome such difficulties in the past, we have dealt with our problems, and the balance from trading account at £88,645 is £549 higher than last year. This result has been brought about by a substantial refund of Excess Profits Tax and has been further augmented by special initial allowances from income tax.

After providing for taxation the available balance is £175,265, from which the directors propose the payment of the same dividend as last year and to place to rehabilitation and contingencies reserve, which is the renamed war contingencies reserve, the sum of £40,000, increasing that reserve to £220,000—leaving the balance carried forward slightly reduced at £91,087.

A considerable amount has been spent on buildings, plant, and machinery during the year; further expenditure is under way in the current year and it is our intention to continue the policy of maintaining these assets on the most up-to-date lines.

A fresh agreement has been made for the repayment of the asset under carriages and wagons let on hire purchase, and the amount received as consideration for the concession granted has been taken into the accounts.

I referred last year to the difficult position of both material supplies and labour. It is more acute today. Adequate supplies both of raw and finished materials cannot be obtained, and our output has suffered very considerably. For some time we have been forced to place our works on a four-day week wholly on account of shortages in supplies. It must be the responsibility of the unions and the Government alike to make certain that the production per annum referred to in the recent White Paper is increased if the reduction in hours

of work does not become in effect merely another increase in wages and a further cost to be borne by industry as a whole. The increase in National Insurance contributions which took effect on September 30 when the increase in pensions was made, increased the cost of this insurance to the employer by just over 50 per cent. The recent general stoppage of work due to the failure to maintain electricity and coal supplies places a further burden on costs for the current year. Staggered hours of working will mean a further increase in costs.

There is considerable leeway to be made good in rolling stock requirements throughout the world, but that position will not continue indefinitely, and, if we in Great Britain are to hold our position, we must meet the competition which we are already experiencing and our quality must be backed up by competitive prices that increased production alone will allow.

We are endeavouring to maintain and strengthen our overseas markets and we can do much for the export drive if we can improve on our deliveries, but our position in this respect hinges on the availability of controlled materials and the degree of support received from the Government Departments concerned.

As you will observe, your Board has elected Mr. H. J. S. Moyses, O.B.E., Deputy-Chairman in addition to his post as Managing Director. We have been glad to mark in this way our appreciation of the outstanding ability displayed in his devoted services to our company.

The report and accounts were adopted.

### Offsetting National Power Shortage

Mr. E. P. Paxman, Managing Director of Davey, Paxman & Co. Ltd., at a meeting in London last week, explained some of the ways in which private industrial undertakings could help to assure their power supplies. The recent annual report of the Central Electricity Board had stated that load shedding on a considerable scale was inevitable during the next two or three years. The installation of private power plant would help to avoid the imposition of peak loads on public power supply, would avoid night-shift working, and the staggering of hours. It would not only provide the means of saving the suggested one-third in consumption of current required to reduce the risks of load shedding, but also would provide means of carrying on during the cuts or total stoppage of outside electricity supply.

Under present conditions private power plant was based on prime movers of diesel-engine type; if the engine was coupled to an electric generator all or part of the factory electric load would be carried by it; by coupling it directly to a compressor, a length of shafting, or a pump or other machine, an equivalent saving in electric current would be achieved. High priority manufacture of diesel car units had been sponsored by the Ministry of Supply with the aim of helping power users during the next three or four years. Release had been authorised of the material needed for a large programme to make available engines and electrical generators and switchgear at the earliest date possible, and manufacture was already in hand. Sizes of diesel generating sets being made were between 50 kVA and 330 kVA; these sets have been chosen after an analysis of requirements of manufacturers of all available engines. The Ministry of Fuel &

Power was to assure that adequate supplies of diesel fuel oil would be available to run these sets. The sets were both compact and simple to operate. The Ministry of Supply was arranging that priority of allocation would be made to intending purchasers whose needs were considered most urgent in the national interest.

### Questions in Parliament

#### Railway Charges

On May 12 Air-Commodore A. V. Harvey (Macclesfield—C.) asked the Minister of Transport if he would give an assurance that passenger and freight rail rates would not be further increased this year.

Mr. Alfred Barnes (Minister of Transport): I can give no such assurance. I stated in February last that the Charges Consultative Committee had recommended certain increases in railway charges, and that the Government had decided to review the position at the end of March in the light of further experience of the trends of receipts and expenditure.

It now appears that, apart from the effects of the recent severe weather and the fuel crisis in the first quarter of this year, other factors are affecting net revenue adversely. To the end of March, the pooled net revenue of the railway companies fell short of the appropriate proportion of the fixed annual sums payable to them by about £18 million. It is estimated that this deficiency will increase to about £23 million by June 30, and possibly to about £32 million by the end of the year. These estimates justify increases substantially in excess of those recommended by the Committee, and the Government is giving close consideration to the steps necessary to meet the position.

Air-Commodore Harvey: Is the Minister aware that he has just given an account of what is a most depressing future for the industry? Is he aware that under nationalisation the charges have not been increased yet, and, in view of the present condition of the country economically, will he give an assurance to the public and to traders that the charges will not be increased?

Mr. Barnes: I have already stated that I can give no assurance. This has nothing to do with the form of control of the railways. The railways would have been in a worse position if they were not under control.

Viscount Hinchinbrooke (Dorset, South—C.): What becomes of the promise of cheap and efficient transport under nationalisation?

Members: Wait and see.

Mr. Barnes: That is a question which, later on, Viscount Hinchinbrooke might be in a better position to judge.

Mr. Douglas Jay (Battersea, North—Lab.): Is the Minister aware that paying subsidies to private enterprise on this scale is not justified?

Mr. Barnes: I do not think the question arises. The control agreement is in order at the present moment, and the State must meet its obligations, like everyone else.

Mr. E. H. Keeling (Twickenham—C.): May I ask whether the Minister's estimate takes account of the claim for about £70 million per annum extra pay from the railway staffs?

Mr. Barnes: I do not quite see the connection, and, in any case, these are not my estimates, but the railway companies'.



## Notes and News

**Southern Railway Deepdene Offices.**—The Southern Railway headquarters building located at Dorking, and lately known as Deepdene Hotel, has been renamed Deepdene House.

**Cost-of-Living Index.**—At April 1 last, the official cost-of-living index figure was 103 points above the level of July, 1914, compared with 104 points at March 1 last. At April 1, 1939, the cost-of-living index was 53 points above July, 1914.

**Assistant Transportation Manager Required.**—An assistant transportation manager, 30 to 35 years of age, is required by the Malayan Government for the railway department, for one tour of three years with prospect of permanency. See Official Notices on page 519.

**Hoffmann Manufacturing Co. Ltd.**—The profit for 1946 was £158,592, after deducting £6,097 for debenture interest, and crediting £140,000 as E.P.T. recoverable. In 1945 a loss of £32,092 was incurred. In that year £100,000 was transferred from the income tax reserve, and debenture interest took £5,740. There was no credit for E.P.T.

**Hunslet Diesel Engine Progress.**—We are informed that the order books of the Hunslet Engine Co. Ltd., Leeds, include at the present time straight diesel locomotives in powers up to 500 h.p. both for surface and flameproof underground working. Continuous delivery is being effected of the Hunslet 100-b.h.p. mine's diesel locomotive for man-riding trains and coal haulage up to 375-ton train weights. Recently a coal-hauling mines locomotive has been shipped to Canada.

**East Indian Railway Annuities.**—It has been notified that on March 31, 1947, a total sum of £9,718,933 18s. 4d. was invested for the purpose of providing a sinking fund in respect of the annuities class "B," a total sum of £2,193,402 12s. 10d. was invested for the purpose of providing a sinking fund in respect of annuities class "C," and a total sum of £4,169,927 14s. 7d. was invested for the purpose of providing a sinking fund in respect of annuities class "D."

**Central Wagon Co. Ltd.**—Net profit for the year ended September 30 last, after taxation, was £79,951, as against £75,155 for 1944-45. The ordinary distribution has been raised from 17½ per cent. to 20 per cent., and £30,000, as in the previous year, has been transferred to general reserve, bringing it up to £400,000. The carry-forward of £30,388 shows a reduction of £5,049, but this is offset by an increase in the carry-forward of subsidiary companies. During the year, the company's wagons were sold to a subsidiary, which hires them to the parent company.

**L.M.S.R. Sailing Tickets.**—The L.M.S.R. announces that sailing tickets will be required for journeys on its Irish cross-channel steamers between June 5 and September 27, 1947, inclusive. Sailing tickets, applications for which may be made up to eight weeks in advance of the intended date of travel, will be supplied free on application to L.M.S.R. Marine Superintendents at Holyhead, Heysham, and Stranraer, or on personal application at the Sailing Ticket Office, Euston Station, and the Booking Office, St. Enoch Station, Glasgow. Travellers from Ireland should apply to the Irish Traffic Manager, L.M.S.R., 15, Westmoreland Street, Dublin, if travelling via

Kingstown, or to the Steamship Superintendent, L.M.S.R., 24, Donegall Place, Belfast, if travelling via Belfast or Larne.

**Churchill Machine Tool Co. Ltd.**—A final dividend of 15 per cent. declared on the ordinary stock for 1946 makes a total of 30 per cent. for the year, the same distribution as in 1945.

**Birmingham Railway Carriage & Wagon Co. Ltd.**—The trading profit for 1946 was £81,422, as against £82,646 in 1945. After adding interest and sundry credits amounting to £7,223, there is a total sum available of £88,645, as compared with £88,096 in 1945. After reduction of debenture interest and directors' remuneration, the net profit of £83,463 compares with £82,914. An ordinary dividend of 7½ per cent. is declared as in the previous year. The carry-forward is reduced from £91,802 to £91,087.

**British Oxygen Co. Ltd.**—A net profit of £668,858 is shown for 1946, after providing for depreciation, income tax, and E.P.T. The 1945 figure was £520,587, but the total for the year just completed includes a revenue item of £150,000 representing an adjustment of E.P.T. in respect of previous years. A final ordinary dividend of 12½ per cent. makes a total distribution for the year of 20 per cent., the same as in 1945, except that in that year the actual dividend was 16 per cent., and a special jubilee bonus of 4 per cent. was paid.

**Burma Railways 3 per cent. Debenture Stock.**—The Secretary of State for India has given notice, for and on behalf of the Governor-General of India in Council, on whom the liability of the Burma Railways Co. Ltd. in respect of the 3 per cent. debenture stock has devolved, that such of the stock as is outstanding on May 15, 1948, will be redeemed at par on that date. Repayment will be made at the Bank of England together with interest accrued to the date of redemption. As from May 15, 1948, interest on the stock will cease to be payable.

**British Wagon Co. Ltd.**—The net profit of the British Wagon Co. Ltd. for 1946 was £43,962, an increase of £3,140. A provision of £43,450 is made for taxation, as compared with £43,204 in 1945. The allocation to general reserve is £15,000. The directors recommend a final ordinary dividend of 17½ per cent., and a bonus of 10 per cent., making a total distribution of 35 per cent. for the year. In 1945 the distribution was 50 per cent., but 25 per cent. of this was a special payment. The sum of £50,624 is carried forward, as against £57,737 brought in.

**L.M.S.R. Irish Steamship Services.**—The L.M.S.R. announces that its Heysham—Belfast steamers will sail each weekday in each direction from May 22 to June 4 inclusive, and from July 28 to August 9 inclusive, instead of three days weekly as at present. There will be an extra sailing in each direction on each Friday from June 27 to July 25 and from August 15 to 29 inclusive. Holyhead—Kingstown steamers will sail twice daily each weekday during the same periods, leaving Holyhead at 3.45 a.m. and 2.50 p.m., and Kingstown (Dun Laoghaire) at 8.30 a.m. and 7.30 p.m. (except on Monday, August 4, when only the night service will run). Connecting train services, Euston—Holyhead and Euston—Heysham will run for each additional sailing. Stranraer—Larne steamship services will

operate normally, except that between June 27 and September 13, inclusive, there will be additional Friday and Saturday sailings leaving Stranraer at 6.15 p.m. and Larne at 9.55 a.m.

**Cost-of-Living Index.**—At April 1 last, The report for 1946 shows a final profit of £64,044, as against £111,335 in 1945. To this is added £30,000 as provision for refund of tax. After deducting bank interest, war risk insurance, deferred repairs,

## British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices	
			May 13, 1947	Rise Fall
G.W.R.				
Cons. Ord. ....	61½	54½	54½	—
5% Con. Pref. ....	126½	107	119½	—
5% Red. Pref. (1950) ..	106½	102½	104½	—
5% Rt. Charge .....	140½	122½	135½	—
5% Cons. Guar. ....	137½	118½	131½	—
4% Deb. ....	129½	106	125	—
4½% Deb. ....	129½	107	124½	—
4½% Deb. ....	130½	114	125½	—
5% Deb. ....	142½	125	137½	—
2½% Deb. ....	95½	81½	92½	—
L.M.S.R.				
Ord. ....	30½	26½	27	—
4% Pref. (1923) ....	64	52½	58	—
4% Pref. ....	86	75½	79½	—
5% Red. Pref. (1955) ..	105½	97	101½	—
4% Guar. ....	108½	100	102½	—
4% Deb. ....	120	103	113½	—
5% Red. Deb. (1952) ..	108½	105½	104½xd	—
L.N.E.R.				
5% Pref. Ord. ....	7	5	6½	—
Def. Ord. ....	3½	2½	3½	—
4% First Pref. ....	59½	50½	54	—
4% Second Pref. ....	29½	25½	27	—
5% Red. Pref. (1955) ..	104	97	98½	—
4% First Guar. ....	107	98	101½	—
4% Second Guar. ....	101	90	95½	—
3% Deb. ....	104	87½	98½	—
4% Deb. ....	119½	102½	113½	—
4½% Sinking Fund				
Red. Deb. ....	107½	101½	103½	—
SOUTHERN				
Pref. Ord. ....	79½	70	72½	—
Def. Ord. ....	24	19½	22½	+ ½
5% Pref. ....	125½	107	118½	—
5% Red. Pref. (1964) ..	115½	106½	111½	—
5% Guar. Pref. ....	137½	119	131½	—
5% Red. Guar. Pref. (1957) ..	115½	107½	111½	—
4% Deb. ....	129½	105½	125	—
5% Deb. ....	159½	125½	135½	—
4% Red. Deb. (1962-67) ..	113½	104½	110½	—
4% Red. Deb. (1970-80) ..	115½	104½	111½	—
FORTH BRIDGE				
4% Deb. ....	109	103	103½	—
4% Guar. ....	105	102	99½	—
L.P.T.B.				
4½ "A" ....	133½	120½	128½	—
5% "A" ....	142½	130½	137½	—
3% Guar. (1967-72) ..	108	98½	104½	—
5% "B" ....	128½	117½	123½	—
5% "C" ....	64½	56½	62½	—
MERSEY				
Ord. ....	34	30	33	—
3% Perp. Pref. ....	76	69	72½	—
4% Perp. Deb. ....	117½	103	111	—
3% Perp. Deb. ....	98	81	92½	—
IRELAND*				
BELFAST & C.D.				
Ord. ....	8½	6	7½	—
G. NORTHERN				
Ord. ....	41½	30½	30	+ 2
Pref. ....	63½	52	50	—
Guar. ....	97½	78½	87	—
Deb. ....	107	97½	100	+ ½
IRISH TRANSPORT				
Common ....	19½	16½	15½	—
3% Deb. ....	107	100	105½	—

\* Latest available quotation

## OFFICIAL NOTICES

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and depreciation, the net profit of £70,674 compares with £73,041 in the preceding year. The directors recommend a final dividend of 15 per cent., making 20 per cent. for the year. The carry-forward of £231,606, subject to directors' fees, compares with £178,032 in 1945.

**The Superheater Co. Ltd.**—The net profit for 1946 was £153,555, an increase of £11,262, after providing for current taxation. The allocation to reserves is increased from £91,848 to £97,500, of which £68,000 is for future taxation, and £20,000 for general reserve. The distribution on the ordinary capital is 42½ per cent., less tax, as in the previous year, together with 2 per cent., tax free, from a surplus of £3,000 on realisation of investments. A sum of £28,540 is carried forward, as against £20,130 brought in.

**East Indian Railway 3 per cent. New Debenture Stock.**—The Secretary of State for India has given notice, for and on behalf of the Governor-General of India in Council, on whom the liability of the East Indian Railway Company in respect of the 3 per cent. new debenture stock has devolved, that such of the stock as is outstanding on May 15, 1948, will be redeemed at par on that date. Repayment will be made at the offices of the East Indian Railway Company, 73-76, King William Street, London, E.C.4, together with interest accrued to the date of redemption. As from May 15, 1948, interest on the stock will cease to be payable.

**Paraguay Central Railway Co. Ltd.**—The report for the year ended June 30, 1946, shows gross receipts of £254,878, a decrease of £2,609. Working expenses rose from £193,790 to £212,372, giving net receipts of £42,506, as against £63,697 in 1946. The addition of general interest, dividends and sundry receipts brings the revenue for the year to £50,253. After providing for fixed charges, there is a debit balance on net revenue account of £3,247, leaving a total debit to be carried forward of £185,104. Against this total debit balance, there is an amount of £40,045 at the credit of general reserve account. In the first four months of the current financial year, beginning on July 1, 1946, operating expenses exceeded gross earnings by about £3,000, whereas in the corresponding period of the previous year there was a surplus of gross earnings over operating expenses of about £12,000. The report states that the difficult financial conditions with which the company is faced are accentuated by the non-payment of long-outstanding Government accounts,

and the continued suspension of the service on the Government internal bonds, of which the company owns the equivalent of over £100,000.

**Handling Increased Holiday Traffic at Pwllheli.**—In order to provide improved facilities for handling increased traffic resulting from the establishment of the Penychain holiday camp, the Great Western Railway has in hand a £41,000 scheme for a new layout at Pwllheli locomotive yard.

## Opening of Filey Holiday Camp Station.

—The official opening of Filey Holiday Camp Station, L.N.E.R., further reference to which will be made in a later issue, took place on May 10. The ceremony was performed by the Rt. Hon. Lord Middleton, M.C., Lord Lieutenant of the East Riding of Yorkshire, who was supported by Mr. Geoffrey H. Kitson, Director, and Sir Charles Newton, Chief General Manager, L.N.E.R., and by Mr. Ian Anderson, O.B.E., M.C., Chairman, and Mr. W. E. Butlin, M.B.E., Managing Director, Butlin's Limited. After the opening ceremony, the guests were shown round the camp, and the tour was followed by a reception and luncheon in the Gloucester House restaurant.

**Salvador Railway Co. Ltd.**—An increase in gross receipts was again recorded in the year ended June 30, 1946, but the improvement of £6,923 under this heading was counterbalanced by an advance of £13,218 in expenses. Net operating profit was £14,776, a decrease of £6,295. The General Manager estimates that an expenditure of £84,000 will be necessary to bring the track and equipment into a sound condition, and the board in consequence has charged £40,074 against revenue, so as to bring the provision for deferred repairs account up to £84,000. This has resulted in a loss of £35,490 for 1946, and a debit balance of £51,875 from last year gives a final deficit of £87,365.

**Trans-Zambesia Railway Co. Ltd.**—A statement by the Chairman, Mr. Vivian L. Oury, issued with the report of the Trans-Zambesia Railway Co. Ltd. for 1945, shows that receipts for the year, at £282,660, compared with £257,837 in 1944. Expenditure rose from £159,384 to £239,773, representing 85·7 per cent. of the gross receipts, as compared with 62·58 per cent. in 1944. The surplus of receipts over expenditure in 1945 was £42,887, a decrease of £55,566. The heavy increase in expenditure is due in part to the fact that provision has been made in the accounts for income tax in respect of the profits for the year 1945. Increases con-

tinued in the tonnage of goods and number of passengers. In 1939 the goods tonnage was 90,064 tons, and the number of passengers was 55,565, whilst in 1945 goods traffic amounted to 176,488 tons, and 105,961 passengers were carried. This increase in traffic was handled without addition to locomotives or rolling stock, but in 1946 the company put into service six new 4-6-2 engines and the Nyasaland Railways, whose rolling stock is pooled with the company's, placed in traffic 40 30-ton covered goods bogie wagons. The company still requires to purchase more open wagons to handle the increasing timber traffic. This traffic has increased from 5,098 tons in 1939 to 55,821 tons in 1945, and gives every indication of continuing expansion.

## City of Oxford Motor Services Limited.

—The accounts for 1946 showed a profit, after providing £100,000 for taxation, of £82,651. Net traffic and other receipts contributed £261,209, as against £287,117 in 1945. Adding the balance of £8,711 from the previous year, there is a total available of £91,362. The directors recommend allocating £29,389 to general reserve, as compared with £20,810 in 1945, and dividends of 6½ per cent. (less income tax) on the cumulative preference shares, 8 per cent. (free of income tax) on the ordinary shares, and an ordinary bonus of 5 per cent., free of income tax. This will leave a balance of £29,947 to be carried forward.

**Scottish Motor Traction Co. Ltd.**—The report of the company, in which the L.M.S.R. and L.N.E.R. have large shareholdings, shows a profit for the year, after providing for all charges, including depreciation, of £1,185,410. Dividends and interest, and other amounts transferred to the credit of profit and loss account, come to £693,684, giving a total of £1,879,094. After provision for taxation and directors' fees, there is an available balance of £832,730. The preference dividend takes £34,807, and there is an allocation of £180,000 to general reserve. A sum of £95,787 is written off goodwill. From the balance of £522,136, payment is recommended of a dividend of 50 per cent., free of income tax, on the ordinary shares, taking £502,989. To the balance of £19,147, there is added £33,795 brought forward from the preceding year, making a total of £52,941 to be carried forward to the next account. In the preceding year the profit on operations was £913,633, and dividends, interest, etc., contributed £520,555, making a total of £1,434,288. The ordinary dividend in that year was 25 per cent., free of tax.

## Railway Stock Market

The new Stock Exchange account tended to increase business in most sections of markets, although British Funds failed to hold recent gains, prices moving back moderately in the absence of support. Industrials have been stimulated by a further batch of dividend increases, and by market estimates of the extent to which net earnings of individual companies are likely to benefit from the end of E.P.T. assuming that trading profits are maintained. Iron and steel shares still were unsettled by nationalisation uncertainties in the absence of any official Government statement as to its intentions, and which sections of the industry would be taken over in the event of nationalisation. Guest Keen, United Steel, and Thomas & Baldwins firmed up after earlier small losses.

A sharp decline in Vickers 10s. units to 29s. followed the lower consolidated profits of the group disclosed by the full results, due no doubt to the transition to peacetime working and the cancellation of Government war contracts. As shown by the preliminary figures, however, net profits of Vickers itself are higher because the total amount received in dividends from subsidiaries and elsewhere has increased, and the company's dividend is 2½ per cent. up at 12½ per cent. Elsewhere, Clarke Chapman rallied to 63s. 9d., but British Insulated Callenders fell back to 47s. following the dividend announcement.

There was again only moderate interest in home rails, although bearing in mind current levels, which are well below take-over prices, the stocks must be regarded as offering an attractive means of acquiring

an interest in British Funds. They can be classed as offering good investment merits, with scope for moderate capital appreciation, unless, of course, Mr. Dalton could not maintain his cheaper money policy, in which case prices of all classes of British Funds would be affected. It would seem certain that if Mr. Dalton is confident of the position and outlook for British Funds, full particulars of British Transport stock could be made available now. It continues to be assumed confidently that the rate of interest will be 2½ per cent.

The firmer tendency in home rails which appeared to develop, was due probably in the main to sympathy with the recent rally in British Funds. Sentiment was not affected to any extent by the disclosure that in the first quarter of 1947, operations of the railways resulted in a £18,000,000 net deficiency below the proportionate amount of the annual fixed rental. Until nationalisation is effected, the control agreement will remain in force, which will mean that the Government will have to make good the fixed rental. On the other hand it is unfair for the Minister of Transport to continue to refer to this as a subsidy for the railways, because, in common fairness, it has to be remembered that when the railways were doing well during the war period, the control agreement worked to the advantage of the Government at the expense of railway stockholders.

There has been moderate buying of Great Western stocks, the ordinary firming up to 54½, while the consolidated preference strengthened to 119½, although the guaranteed stock turned slightly easier

at 131½. Elsewhere, L.M.S.R. ordinary regained an earlier fractional decline, and Metropolitan Assented was favoured around 59, although London Transport "C" was inclined easier at 62, and the 5 per cent. "B" stock eased to 123½. L.N.E.R. 3 per cent. debentures improved to 98½.

The foreign railway market has remained reasonably active, with Argentine rails fairly steady, although fractionally lower in some cases. Speculative holders appear to be growing tired of waiting for the terms in respect of the different classes of stock, and are selling with a view to exchanging into other securities which are more active at the moment. Nevertheless, according to many views, the terms are likely to be favourable, particularly in regard to debenture stocks of the leading companies. Brazil rails have fluctuated sharply in the absence of any official statement as to whether there is expected to be a resumption of talks regarding acquisition of the railways.

There was speculative buying of Leopoldina terminal debentures. San Paulo fell back to 182, although the question of payment for the railway's "outside" interests is not believed to be bound up with any agreement in respect of Brazil's sterling balances. A feature has been strong demand for Central Uruguay stocks on revived rumours of take-over developments, the ordinary stock touching 27½ and the second debentures 72. Beira Railway certificates remained active up to 46s. 9d. La Guaira & Caracas and Bolivar Railway stocks also responded to assumptions as to take-over terms.

### Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffic to date			Shares or Stock	Prices		
			Total this year	Inc. or dec. compared with 1945/6		Totals		Increase or decrease		Highest 1945	Lowest 1945	May 13, 1947
						1946/7	1945/6					
			£	£		£	£	£				
Antofagasta ...	834	4.5.47	£42,790	+ £8,320	18	£686,650	£595,390	+ £91,260	Ord. Stk.	12	8½	15½
Arg. N.E. ...	753	3.5.47	ps.287,000	+ ps.5,500	44	ps.14,128,300	ps.13,019,300	+ ps.1,109,000	Ord. Stk.	10	5½	14
Bolivar ...	174	Apr., 1947	\$109,336	+ \$1,089	17	\$449,648	\$464,650	— \$15,002	6 p.c. Deb.	8½	5½	15
Brazil ...	—	—	—	—	—	—	—	—	Bonds	25	17	35½
B.A. Pacific ...	2,771	3.5.47	ps.2,750,000	+ ps.368,000	44	ps.106,477,000	ps.100,664,000	+ ps.5,813,000	Ord. Stk.	7	5	9½
B.A.G.S. ...	5,080	3.5.47	ps.3,826,000	+ ps.328,000	44	ps.160,758,000	ps.157,762,000	+ ps.2,996,000	Ord. Stk.	13½	10½	19
B.A. Western ...	1,924	3.5.47	ps.1,431,000	+ ps.423,000	44	ps.58,300,000	ps.52,853,000	+ ps.5,447,000	"	12½	9½	27½
Cent. Argentine ...	3,700	3.5.47	ps.3,078,100	— ps.30,255	44	ps.142,064,080	ps.138,934,734	+ ps.3,129,346	"	9½	7	20½
Do. ...	—	—	—	—	—	—	—	—	Dfd.	5	2½	17½
Cent. Uruguay ...	970	3.5.47	43,155	— 1,092	44	1,650,855	1,731,666	— 80,811	Ord. Stk.	7½	4	28
Costa Rica ...	262	Mar., 1947	32,528	+ 1,760	39	252,900	252,872	+ 28	Stk.	16½	13	12
Dorada ...	70	Mar., 1947	29,200	+ 3,039	13	89,500	85,975	+ 3,525	1 Mt. Deb.	103	102	106½
Entre Rios ...	808	3.5.47	ps.404,400	+ ps.8,700	44	ps.18,937,000	ps.18,676,500	+ ps.260,500	Ord. Stk.	7½	4½	8
G.W. of Brazil ...	1,030	3.5.47	29,000	+ 4,600	18	651,400	540,300	+ 111,100	Ord. Stk.	30/-	23½	92½
Inter. Ctl. Amer. ...	794	Mar., 1947	\$1,264,115	+ \$273,636	13	\$3,591,376	\$2,914,695	+ \$676,681	—	—	—	—
La Guaira ...	22½	Apr., 1947	\$101,968	— \$11,228	17	\$457,043	\$460,888	— \$3,845	5 p.c. Deb.	78	70	88½
Leopoldina ...	1,9	8	66,224	+ 12,660	18	1,144,193	1,015,763	+ 128,430	Ord. Stk.	4½	3½	19½
Mexican ...	483	31.5.46	ps.1,464,000	+ ps.459,100	22	ps.7,706,200	ps.13,441,600	+ ps.5,220,200	Ord. Stk.	2	—	1
Midland Uruguay ...	319	Mar., 1947	15,947	— 57	39	149,262	164,290	— 15,028	Ord. Sh.	75/6	67/6	81/3
Nitrate ...	113	Mar., 1947	5,671	+ 994	39	49,155	49,373	— 218	—	—	—	—
N.W. of Uruguay ...	274	2.5.47	£50,113	— £7,839	44	£2,762,809	£2,653,775	+ £109,034	Pr. Li. Stk.	79½	77	60½
Paraguay Cent. ...	382	30.4.47	11,634	+ 1,496	17	70,429	75,908	— 5,479	Pr. Li. Stk.	103	102	106½
Peru Corp. ...	1,059	Apr., 1947	161,601	+ 12,510	43	1,518,215	1,401,933	+ 116,282	Ord. Stk.	103	50½	183½
Salvador ...	100	Mar., 1947	c209,000	+ c34,000	39	c1,338,000	c1,255,000	+ c83,000	Ord. Sh.	17/-	10/6	20/-
San Paulo ...	153½	—	—	—	—	—	—	—	—	—	—	—
Taitai ...	156	Mar., 1947	2,925	— 605	39	37,630	28,020	+ 9,610	Ord. Sh.	3	1	3½
United of Havana ...	1,301	3.5.47	118,849	+ 42,343	44	2,912,014	2,632,868	+ 279,146	Ord. Stk.	—	—	—
Uruguay Northern ...	73	Mar., 1947	1,307	— 247	39	11,386	15,768	— 4,382	—	—	—	—
Canada												
Canadian National ...	23,535	Feb., 1947	7,767,000	+ 553,250	8	15,981,500	14,939,000	+ 1,042,500	—	—	—	—
Canadian Pacific ...	17,037	7.5.47	1,424,250	+ 163,000	18	25,823,000	24,688,500	+ 1,134,500	Ord. Stk.	24	14½	17½
Various												
Barsi Light ...	202	Mar., 1947	26,032	+ 3,375	52	271,575	272,272	— 697	Ord. Stk.	131	123	114
Beira ...	204	Feb., 1947	90,568	+ 24,422	20	446,240	352,628	+ 93,612	—	—	—	—
Egyptian Delta ...	607	31.3.47	18,365	+ 422	52	672,501	629,876	+ 42,625	Pr. Sh.	10	8½	6½
Manila ...	—	—	—	—	—	—	—	—	B. Deb.	71	55½	72½
Mid. of W. Australia ...	277	Mar., 1947	18,239	— 127	39	148,908	152,484	— 3,576	Inc. Deb.	97½	85	65
Nigeria ...	1,900	Feb., 1947	353,073	+ 2,154	46	4,193,473	3,153,983	+ 1,039,490	—	—	—	—
Rhodesia ...	2,445	Feb., 1947	533,750	+ 67,632	20	2,761,173	2,476,064	+ 285,109	—	—	—	—
South African ...	13,323	12.4.47	1,119,859	+ 25,393	2	2,044,620	1,989,476	+ 55,144	—	—	—	—
Victoria ...	4,774	Jan., 1947	1,314,795	+ 110,075	30	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee